

# SERVICE MANUAL

## FE-1 CHASSIS

<i>MODEL</i>	<i>COMMANDER</i>	<i>DEST</i>	<i>CHASSIS NO.</i>	<i>MODEL</i>	<i>COMMANDER</i>	<i>DEST</i>	<i>CHASSIS NO.</i>
<b>KV-21C5B</b>	RM-883	French	SCC-Q02H-A	<b>KV-21X5A</b>	RM-883	Italian	SCC-Q06K-A
<b>KV-21C5D</b>	RM-883	AEP	SCC-Q04K-A	<b>KV-21X5B</b>	RM-883	French	SCC-Q02J-A
<b>KV-21C5E</b>	RM-883	Spanish	SCC-Q05K-A	<b>KV-21X5D</b>	RM-883	AEP	SCC-Q04L-A
<b>KV-21C5K</b>	RM-883	OIRT	SCC-Q03S-A	<b>KV-21X5E</b>	RM-883	Spanish	SCC-Q05L-A
<b>KV-21C5R</b>	RM-883	OIRT	SCC-Q03R-A	<b>KV-21X5K</b>	RM-883	OIRT	SCC-Q03U-A
				<b>KV-21X5L</b>	RM-883	Irish	SCC-Q07D-A
				<b>KV-21X5R</b>	RM-883	OIRT	SCC-Q03T-A
				<b>KV-21X5U</b>	RM-883	UK	SCC-Q01F-A



TRINITRON® COLOR TV  
**SONY®**




ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
Italian	B/G/H	GERMAN Stereo	ITALIA VHF : A-H2 (C) UHF : 21-69 PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K, L, I	GERMAN/NICAM Stereo	L VHF : F02-F10 UHF : F21-F60 CABLE : B-Q B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 I UHF : B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H	GERMAN Stereo	PAL B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 CABLE TV (2) : S01-S05, M1-M10, U1-U10 ITALIA VHF : A-H2 (C) UHF : 21-69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	KV-21C5K/21X5K GERMAN/NICAM Stereo  KV-21C5R/21X5R GERMAN Stereo	B/G/H VHF : E2-E12 UHF : E21-E69 CABLE TV (1) : S1-S41 D/K VHF : R01-R12 UHF : R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Irish	I	NICAM Stereo	VHF : A-C, D-J VHF : 21-69 CABLE CHANNELS S1-S20 HYPERBAND S21-S41	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	21X5A	21C5B 21X5B	21C5D 21X5D	21C5E 21X5E	21C5K 21X5K	21X5L	21C5R 21X5R	21X5U
Power Consumption	72W	72W	72W	72W	72W	72W	72W	105W

#### [PICTURE TUBE]

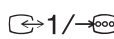
Super Trinitron  
Approx. 55cm (21 inches)  
(Approx. 51cm picture measured diagonally)  
110 degree deflection

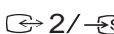
#### [FRONT]


-  Video input - phono jack
-  Audio inputs - phono jacks
-  Headphone jacks : stereo minijack

#### Input/Output Terminals

##### [REAR]

-  21-pin Euro connector (CENELEC standard).
  - Inputs for Audio and Video signals.
  - Inputs for RGB.
  - Outputs of TV Video and Audio signals.

-  21-pin Euro connector.

- inputs for Audio and Video signals.
- inputs for S Video.
- outputs for Audio and Video signals (selectable).
-  Phono Jack
- Outputs for Audio Signals

- Sound output 2 x 14W (Music Power)
- Power requirements 220 - 240V
- Dimensions Approx 620x457x467mm (KV-21C5)  
Approx 527x449x466mm (KV-21X5)
- Weight Approx 22kg (KV-21C5)  
Approx 23kg (KV-21X5)
- Supplied accessories RM-883 Remote Commander (1)  
IEC designated R6 battery (2)
- Other features NICAM\*, FASTEXT, TOPTXT  
\*(KV-21C5B/21C5E/21C5K/  
KV-21X5B/21X5E/21X5K/  
KV-21X5L/21X5U only)


**[RM-883]**

Remote control system	Infrared control
Power requirements	1.5V dc 2 batteries IEC designation R6 (size AA)
Dimensions	Approx 65x225x21mm (w/h/d)
Weight	Approx 157g (Not including battery)

Design and specifications are subject to change without notice.

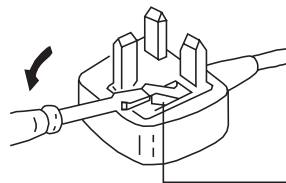
Model Name	KV-21X5A	KV-21C5B	KV-21C5D	KV-21C5E	KV-21C5K	KV-21C5R	KV-21X5L
Item	KV-21X5A	KV-21X5B	KV-21X5D	KV-21X5E	KV-21X5K	KV-21X5R	KV-21X5U
Pal Comb	OFF	OFF	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF	OFF	OFF
RGB Priority	OFF	ON	ON	ON	OFF	OFF	OFF
Woofers Box	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	OFF	OFF	ON
Norm D/K	OFF	ON	OFF	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF	OFF	OFF
Teletext	ON	ON	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	ON	OFF	ON
Language Preset	Italian	French	German	Spanish	OIRT	OIRT	English

## WARNING (KV-21X5L/KV-21X5U only)

The flexible mains lead is supplied connected to a **B.S. 1363** fused plug having a fuse of **5 AMP** capacity. Should the fuse need to be replaced, use a **5 AMP FUSE** approved by **ASTA** to **BS 1362**, ie one that carries the  mark.

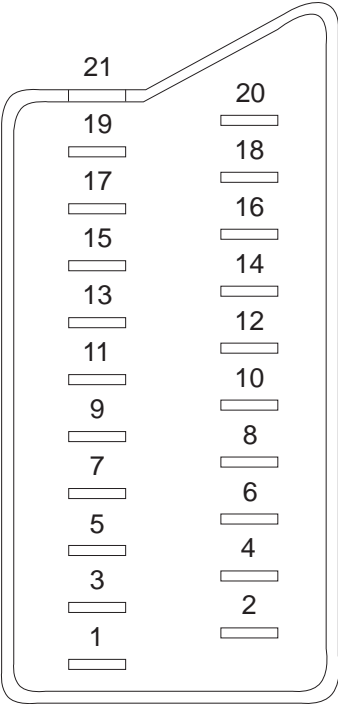
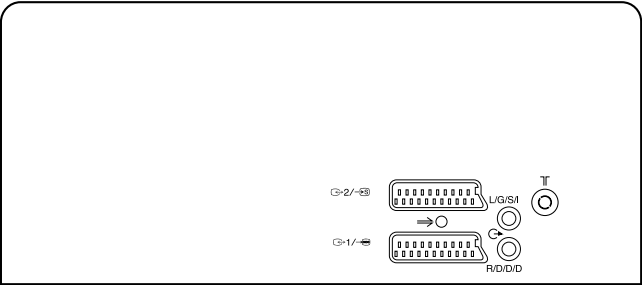
IF THE PLUG SUPPLIED WITH THIS APPLIANCE IS NOT SUITABLE FOR THE OUTLET SOCKETS IN YOUR HOME, IT SHOULD BE CUT OFF AND AN APPROPRIATE PLUG FITTED. THE PLUG SEVERED FROM THE MAINS LEAD MUST BE DESTROYED AS A PLUG WITH BARED WIRES IS DANGEROUS IF ENGAGED IN A LIVE OUTLET SOCKET.

When an alternative type of plug is used it should be fitted with a **5 AMP FUSE**, otherwise the circuit should be protected by a **5 AMP FUSE** at the distribution board.



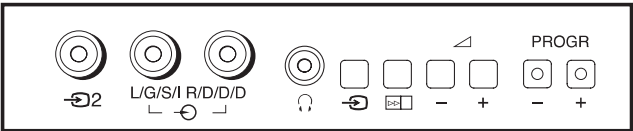
How to replace the fuse.  
Open the fuse compartment with a screwdriver blade and replace the fuse.

21 pin connector ( ↔ 1/ →⊙⊙⊙ , ↔ 2/ →S )



Pin No	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
2	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance : More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance : Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance : More than 10kohm*
7	○	●	●	Blue input	0.7 +/- 3dB, 75 ohms positive
8	○	○	○	Function select (AV control)	High state (9.5-12V) : Part mode Low state (0-2V) : TV mode Input impedance : More than 10K ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 +/- 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground (blanking)	
15	○	-	-	Red input	0.7 +/- 3dB, 75 ohms, positive
	-	○	○	(S signal Chroma input)	0.3 +/- 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1-3V) Low state (0-0.4V) Input impedance : 75 ohms
17	○	○	○	Ground (video output)	
18	○	○	○	Ground (video input)	
19	○	○	○	Video output	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
20	○	-	-	Video input	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
	-	○	○	Video input Y (S signal)	1V +/- 3dB, 75ohms, positive sync 0.3V (-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected      ● Not Connected (open)      \* at 20Hz - 20kHz



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## CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR THE CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP**

## WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD DUE TO LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE POWER LINE.

## SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.


## ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.**

## ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENTION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

## ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!

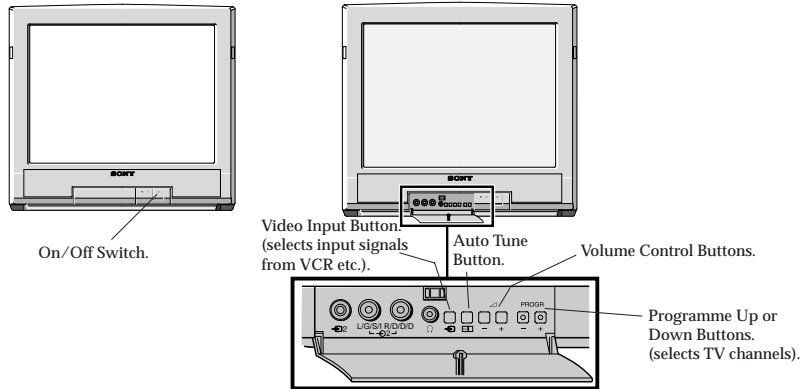
LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

The operating instructions mentioned here are partial abstracts from the Operating Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

### Basic TV Features

#### Overview of TV Buttons



#### Overview of Remote Control Buttons

##### To Mute Sound

Press to mute TV sound. Press again to restore the sound.

##### To Select Channels

Press to select channels.

For double-digit programme numbers, e.g. 23, press **↵** first, then the buttons 2 and 3.  
If you enter an incorrect first digit, this should be corrected by entering another digit (0 - 9) and then selecting **↵** button again to enter the programme number of your choice

##### To Change Screen Format

Press to view programmes in 16:9 mode.  
Press again to return to 4:3 mode.

##### To Adjust TV Volume

Press to adjust the volume of the TV.

##### To Temporarily Switch Off TV

Press to temporarily switch off TV. Press again to switch on TV from standby mode.

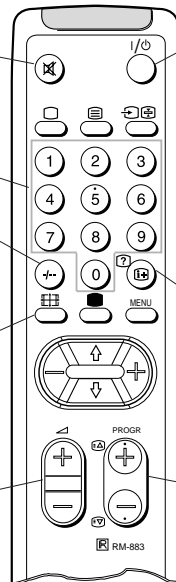
*To save energy we recommend switching off completely when TV is not in use.*  
**NOTE:** After 15 - 30 minutes without a TV signal and without any button being pressed, the TV switches automatically into standby mode.

##### To Reveal On Screen Information

Press to reveal all on-screen indications.  
Press again to cancel.

##### To Select Channels

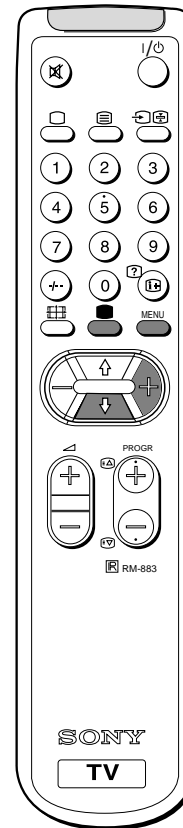
Press to select channels.



### Additional TV Features

#### Using Select Mode

You can select different preset picture and sound modes.



**1** Press the MENU button on the remote control to display the menu on the TV screen.

**2** With the cursor pointing at the symbol on the TV screen as shown, press the yellow button.

**3** Press the blue button to select the desired mode:

- Personal Mode** - reverts to settings made in "Adjusting the Picture and Sound" sections of the manual
- Movie Mode** - for films
- Live Mode** - for live broadcast programmes

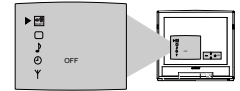
**4** Press the MENU button to remove the menu display from the TV screen.

**Note:** The mode selected in step 3 is now stored.

#### Changing Modes Quickly

**1** Press the button on the remote control to display the three different modes.

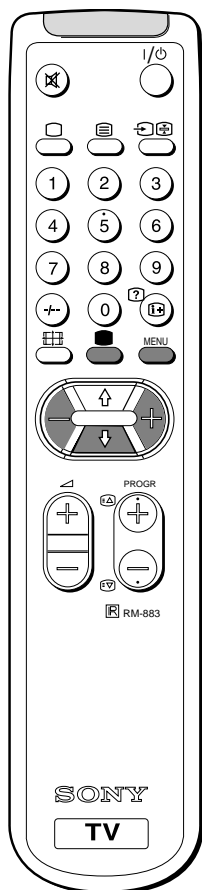
**2** Press the button again to select your desired mode.














## Additional TV Features

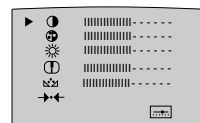
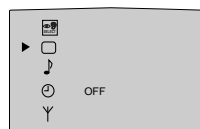
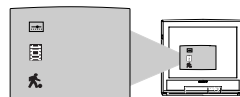
### Adjusting the Picture

Although the picture is adjusted at the factory, you can modify it to suit your own requirement.



- 1 Press the  button on the remote control to display the three different modes on the TV screen.
- 2 Press the  button to highlight the personal mode symbol  as shown.
- 3 Press the MENU button to display the menu on the TV screen.
- 4 Press the blue button on the control to select the  symbol on the TV screen then press the yellow button.
- 5 Press the blue button to select the item you wish to change (see below).
- 6 Press the red or yellow button to alter the selected item.
- 7 Press the MENU button to remove the menu display from the TV screen.

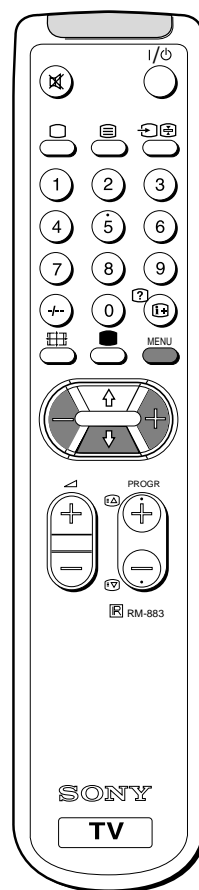
Symbol	Item
	• Contrast
	• Colour
	• Brightness
	• Sharpness
	• Hue control (only for NTSC video signals)
	• Reset - resets to factory preset picture level
	• Represents the mode selected in the "Using Select Mode" section.














## Additional TV Features

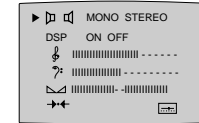
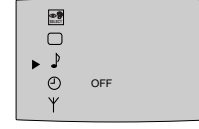
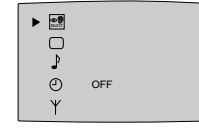
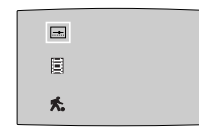
### Adjusting the Sound

Although the sound is adjusted at the factory, you can modify it to suit your own requirement.



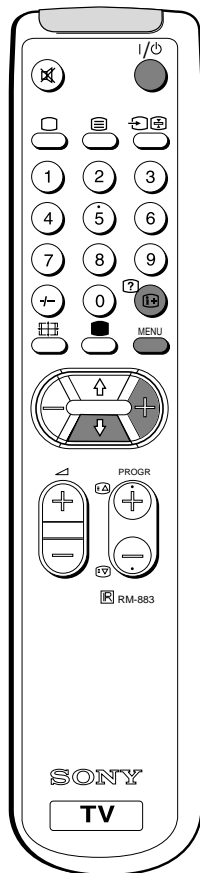
- 1 Press the  button on the remote control to display the three different modes on the TV screen.
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- 3 Press the MENU button to display the menu on the TV screen.
- 4 Press the blue button to select the  symbol on the TV screen then press the yellow button.
- 5 Press the blue button to select the item you wish to change (see below).
- 6 Press the red or yellow button to alter the selected item.
- 7 Press the MENU button to remove the menu display from the TV screen.

Symbol	Item
	• Mono/Stereo A:Channel 1 sound or Mono sound/ B:Channel 2 sound (to select your desired language from a dual sound broadcast)
DSP 	• On/Off (digital sound processor)
	• Treble
	• Bass
	• Balance
	• Reset (resets to factory preset sound level)
	• Represents the mode selected in the "Using Select Mode" section of the manual.

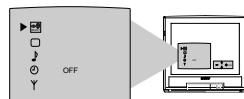



## Using the Sleep Timer

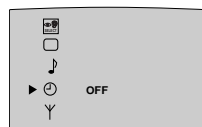
The TV may be set to switch automatically to the standby mode after a length of time chosen by you. You may set the time in 15 minute steps up to 4 hours.



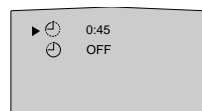
**1** Press the MENU button on the remote control to display the menu on the TV screen.



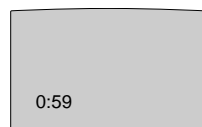
**2** Press the blue button on the control to select the  symbol on the TV screen, then press the yellow button.



**3** Press the yellow button repeatedly until the required amount of time delay appears on the screen.





**4** Once the time delay has been selected, press the MENU button to remove the on-screen display.



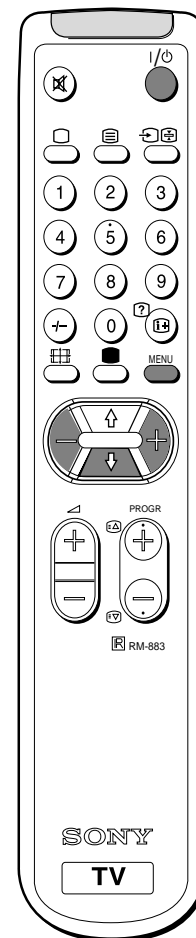
One minute before standby, the display shown appears on the screen.

### Notes:

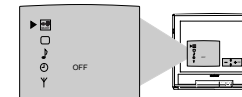
- When watching TV, press the  button to display time remaining.
- To return to normal operation from standby mode, press the  button.


## Using the Wake Up Timer

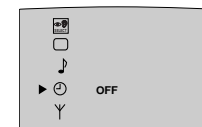
The TV may be set to switch on automatically after a length of time chosen by you. You may set the time in 15 minute steps up to 12 hours.




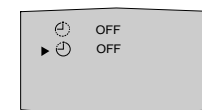
**1** Press the MENU button on the remote control to display the menu on the TV screen.



**2** Press the blue button on the control to select the  symbol on the TV screen, then press the yellow button.




**3** Press the blue button on the control to select the  symbol on the TV screen, then press the yellow button.




**4** Press the red or yellow button to set the time.

0:00 (OFF) 0:15 0:30 0:45 -----12:00



**5** Press the standby button .  
The standby indicator on the TV flashes regularly to indicate that the Wake Up Timer is active.  
After the selected length of time, the TV switches on automatically.

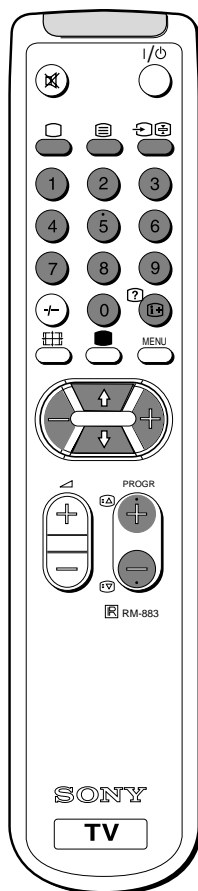
### Notes:

- If you use the "Wake Up Timer" to switch the TV on and for one hour after switching on, no TV or Remote Control button is pressed, the TV switches itself back into Standby mode and the indicator  on the TV lights.
- Any temporary power failure will cause a misfunction in the "Wake Up Timer" and you will have to reset the "Wake Up Timer".



## Viewing Teletext

Teletext is an information service transmitted by most TV stations.



### Selecting Teletext

- 1 Press a number button on the remote control to select the channel which carries the teletext service you wish to receive.
- 2 Press the button on the remote control to switch on teletext.
- 3 Input three digits for the page number using the numbered buttons on the control.
- 4 Press the button to switch off teletext.

**Note:** Teletext errors may occur if the broadcasting signals are weak.

### Using Other Teletext Functions

#### To Superimpose Teletext on to the TV

Press once in teletext mode or twice in TV mode to superimpose teletext on to the TV screen.

Press again to cancel teletext mode.

#### To Move to Next or Preceding Page

Press PROG+/- on the remote control to select the previous or next page.

#### To Freeze a Teletext Page

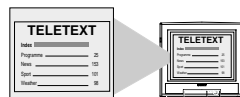
Press on the control to freeze the page.  
Press again to cancel the freeze.

#### Revealing concealed information (eg: answers to a quiz).

Press to reveal information.  
Press again to conceal the information.

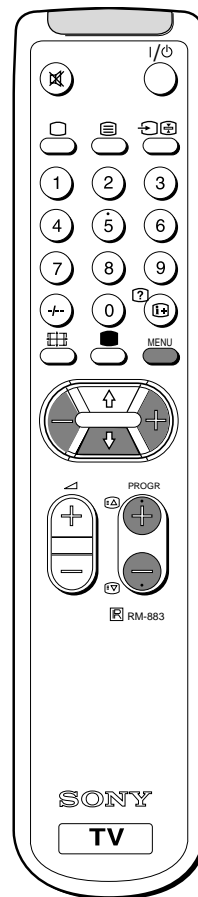
#### Using colour buttons to access pages (Fastext/TOPText)

When the colour coded menu appears at the bottom of a page, press the colour button (green, red, yellow or blue) to access the corresponding page.

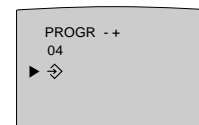
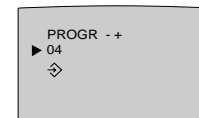
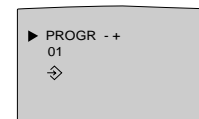
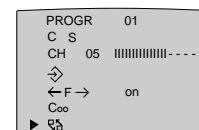
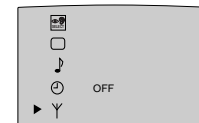
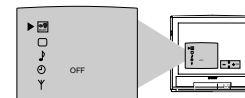


## Exchanging Programme Positions

After tuning you may wish to change the order in which the channels appear on the TV. You may wish for example to exchange the channel on programme number 8 with the channel on programme number 4.

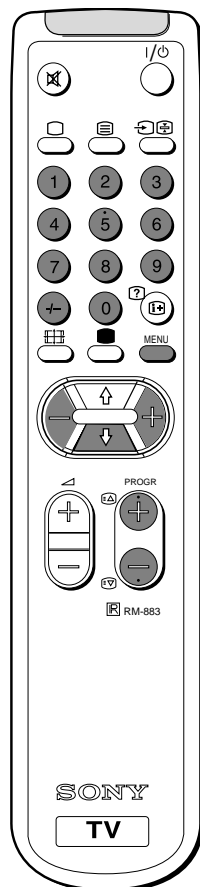


- 1 Press the MENU button on the remote control.
- 2 Press the blue button on the control to select on the TV screen, then press the yellow button.
- 3 Press the blue button to select then press the yellow button.
- 4 With the cursor pointing at PROGR on the TV screen as shown, press PROG+ or - button until the channel you wish to rearrange appears on screen, then press the blue button once.
- 5 Press the red or yellow button to select the new programme number (e.g. PROGR 04) for your selected channel.
- 6 Press the blue button to select then press the yellow button to exchange the channels.
- 7 Repeat steps 4 to 6 if you wish to change the order of the other channels on your TV, then press MENU to return to normal TV screen.
- 8 Press the PROG+/- button to view your selected channels on their new programme numbers.

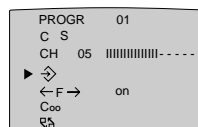
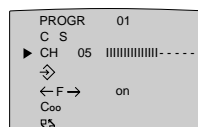
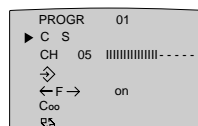
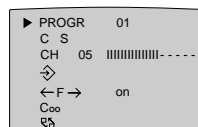
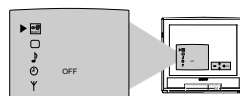


## Manually Tuning the TV

You have already tuned the TV to receive all available channels using the 'Automatically Tuning the TV' procedure at the start of this manual. You can however carry out this operation manually using the following instructions.

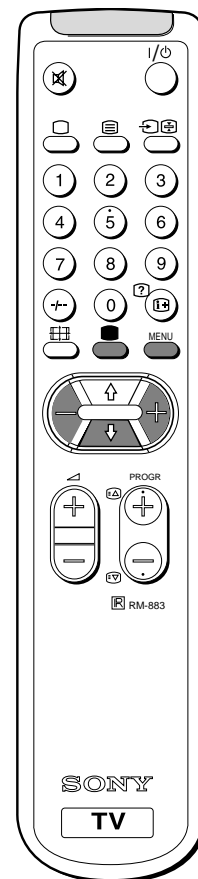


- 1 Press the MENU button on the remote control to display the menu on the TV screen.
- 2 Press the blue button to select the  $\Psi$  symbol on the TV screen then press the yellow button.
- 3 With the cursor pointing at PROGR on the TV screen as shown, press PROG+ or - button on the remote control to allocate a programme number to the channel (eg PROGR 01). For double digit numbers e.g. 55, press the -/- button on the remote control then the corresponding numbered buttons.
- 4 Press the blue button to select the channel type (C to preset a regular channel or S to preset a cable channel) then press the yellow button to highlight the desired channel type.
- 5 Press the blue button to select the tuning bar scale then press the yellow or red button once to start the channel search. (Yellow to search up the scale or red to search down). When a channel is found it appears on the TV screen.
- 6 If you do not wish to store this channel on the programme number you selected, press the yellow or red button to continue searching for the desired channel.
- 7 If this is the channel you wish to store, press the blue button to select the  $\Leftarrow F \rightarrow$  symbol on the screen then press the yellow button to store.
- 8 Repeat steps 3 to 7 if you wish to store more channels then press the MENU button to remove the menu from the TV screen.

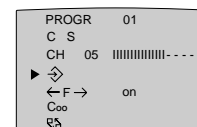
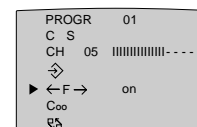
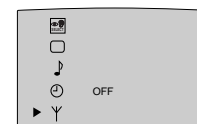
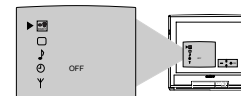


## Fine-Tuning Channels

If a channel is slightly off tune, you can use this fine tune procedure to obtain a better picture reception.



- 1 With the channel you wish to fine-tune on the screen, press the MENU button on the remote control. The menu display appears on the TV screen.
- 2 Press the blue button on the remote control to select the  $\Psi$  symbol on the TV screen then press the yellow button.
- 3 Press the blue button to select the  $\Leftarrow F \rightarrow$  symbol on the TV screen then press the red or yellow button to adjust the tuning.
- 4 Press the blue button to select the  $\Leftarrow F \rightarrow$  symbol on the TV screen then press the yellow button to store.
- 5 Press the MENU button to remove the menu from the TV screen.



Optional Connections

Using Optional Equipment

You can connect optional audio or video equipment to your TV, such as a VCR, a camcorder or video games as shown.

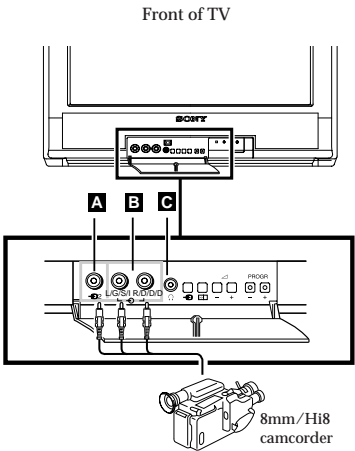
Select and View the Input Signal

- 1 Connect your equipment to the designated TV socket.
- 2 Press the button repeatedly on your remote control until the correct input symbol appears on the TV screen.

Symbol	Input signals
	• Audio/video input signal through the Euro AV connector <b>D</b>
	• RGB input signal through the Euro AV connector <b>D</b>
	• Audio/video input signal through the phono sockets <b>A</b> and <b>B</b>

- 3 Switch on the connected equipment.
- 4 To return to normal TV picture, press the button on the remote control.

Note: To avoid picture distortion, do not connect equipment to the **A** and **D** connectors at the same time.



Additional Information

Connecting a VCR

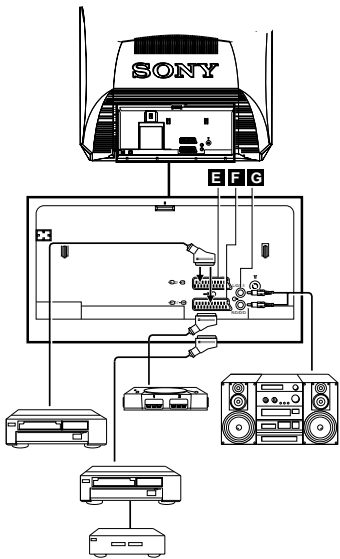
We recommend you tune in the VCR signal to TV programme number '0' using the 'Manually Tuning in the TV' section of this instruction manual.

Connecting Headphones

Plug in your headphones to the socket **C** on the front of the TV set.

For Mono Equipment

Connect the phono plug to the L/G/S/I socket on the front of the TV and select input signal using the instructions above. Finally, refer to the 'Adjusting the Sound' section of this manual and select 'A' on the sound menu screen.



Additional Information

Troubleshooting

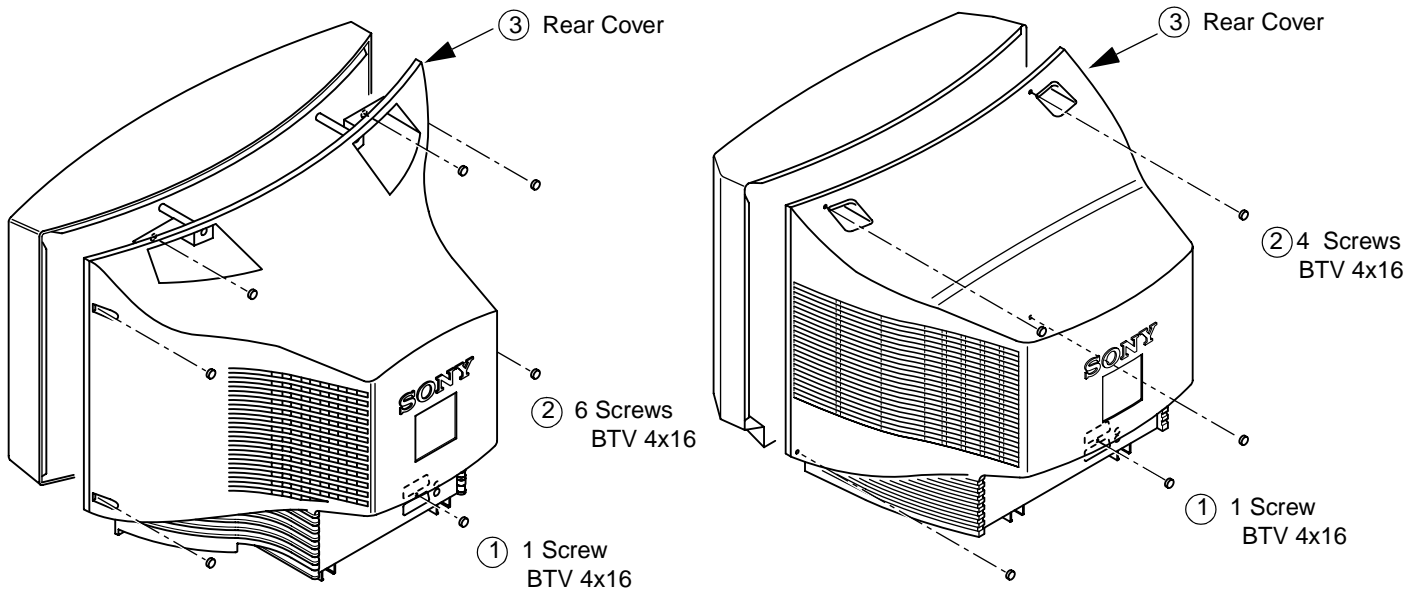
Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark), no sound	<ul style="list-style-type: none"><li>• Plug the TV in.</li><li>• Press the  button on the front of TV.</li><li>• If the  indicator is on press  button or a programme number button on the remote control.</li><li>• Check the aerial connection.</li><li>• Check that the selected video source is on.</li><li>• Turn the TV off for 3 or 4 seconds and then turn it on again using the  button on the front of the TV.</li></ul>
Poor or no picture (screen is dark), but good sound	<ul style="list-style-type: none"><li>• Using the MENU system, select the Picture Adjustment display. Adjust the brightness, picture and colour balance levels.</li><li>• From the Picture Adjustment display select  to return to the factory settings.</li></ul>
Poor picture quality when watching a RGB video source.	<ul style="list-style-type: none"><li>• Press the  button repeatedly on the remote control until the RGB symbol  is displayed on the screen.</li></ul>
Good picture, no sound	<ul style="list-style-type: none"><li>• Press the  +/- button on the remote control.</li><li>• If  is displayed on the screen, press the  button on the remote control.</li></ul>
No colour on colour programmes	<ul style="list-style-type: none"><li>• Using the MENU system, select the Picture Adjustment display. Adjust the colour balance.</li><li>• From the Picture Adjustment display select  to return to the factory settings.</li></ul>
Distorted picture when changing programmes or selecting teletext	<ul style="list-style-type: none"><li>• Turn off any equipment connected to the 21 pin Euro connector on the rear of the TV.</li></ul>
Remote control does not function	<ul style="list-style-type: none"><li>• Replace the batteries.</li></ul>
Noisy picture when viewing TV channel	<ul style="list-style-type: none"><li>• Adjust fine tuning to obtain better picture reception.</li></ul>
The standby indicator  on the TV flashes even though the "Wake Up Timer" is not in use.	<ul style="list-style-type: none"><li>• Contact your nearest Sony service centre.</li></ul>

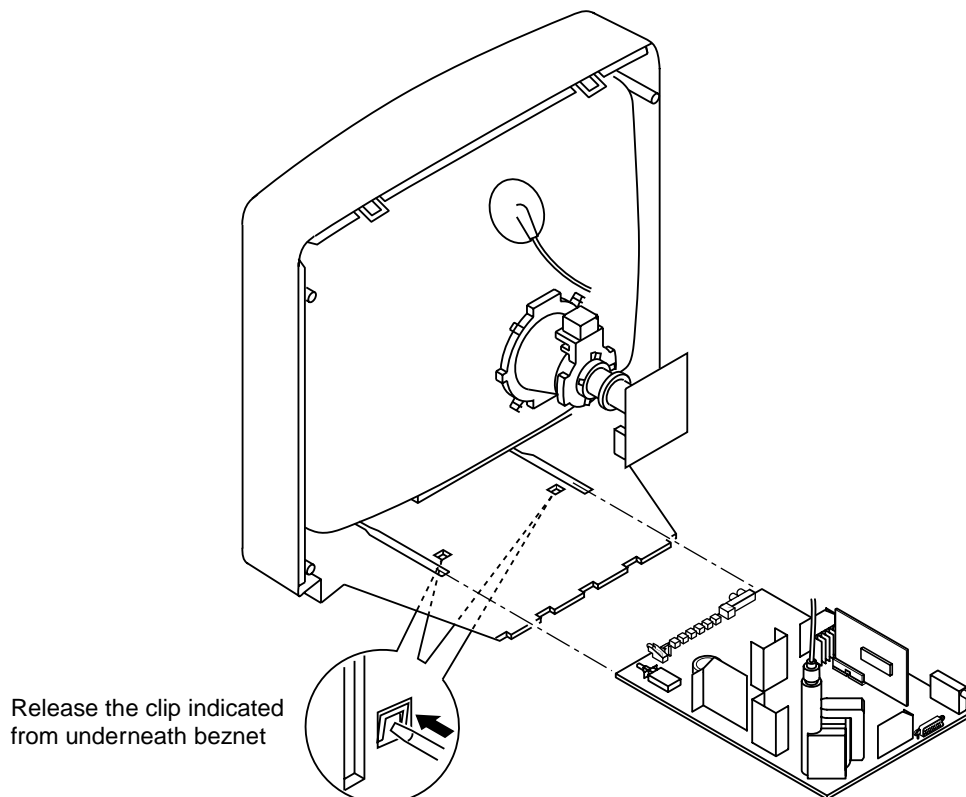
- If you continue to have these problems, have your TV serviced by qualified personnel.
- NEVER open the casing yourself.

## SECTION 2 DISASSEMBLY

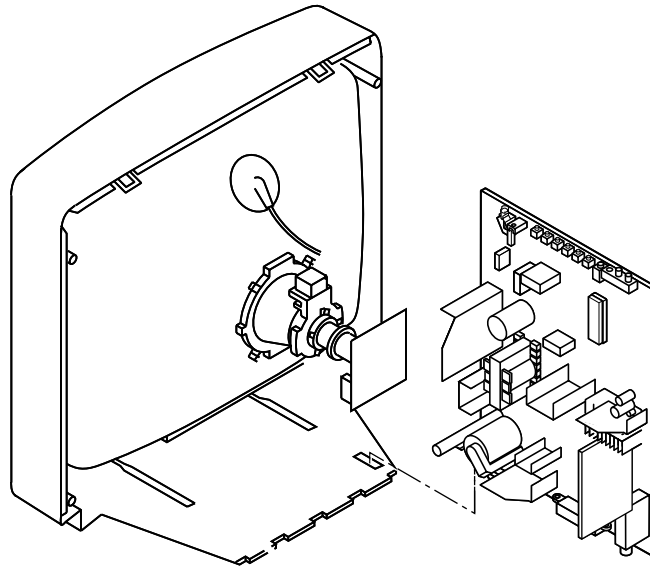
### 2-1. REAR COVER REMOVAL



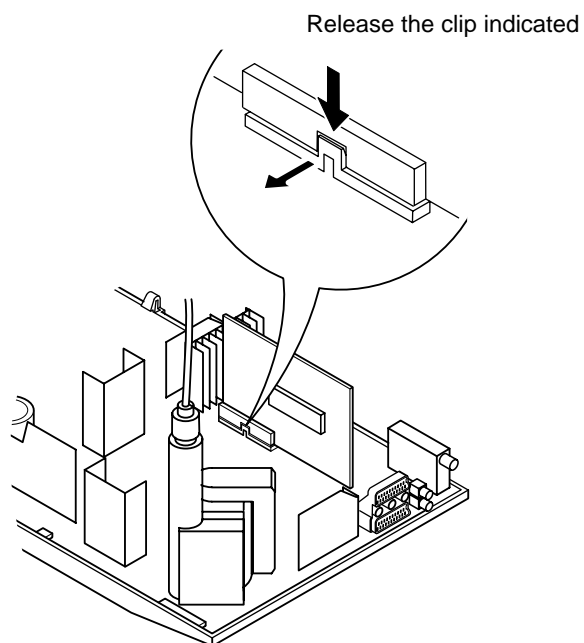
### 2-2. CHASSIS ASSY REMOVAL



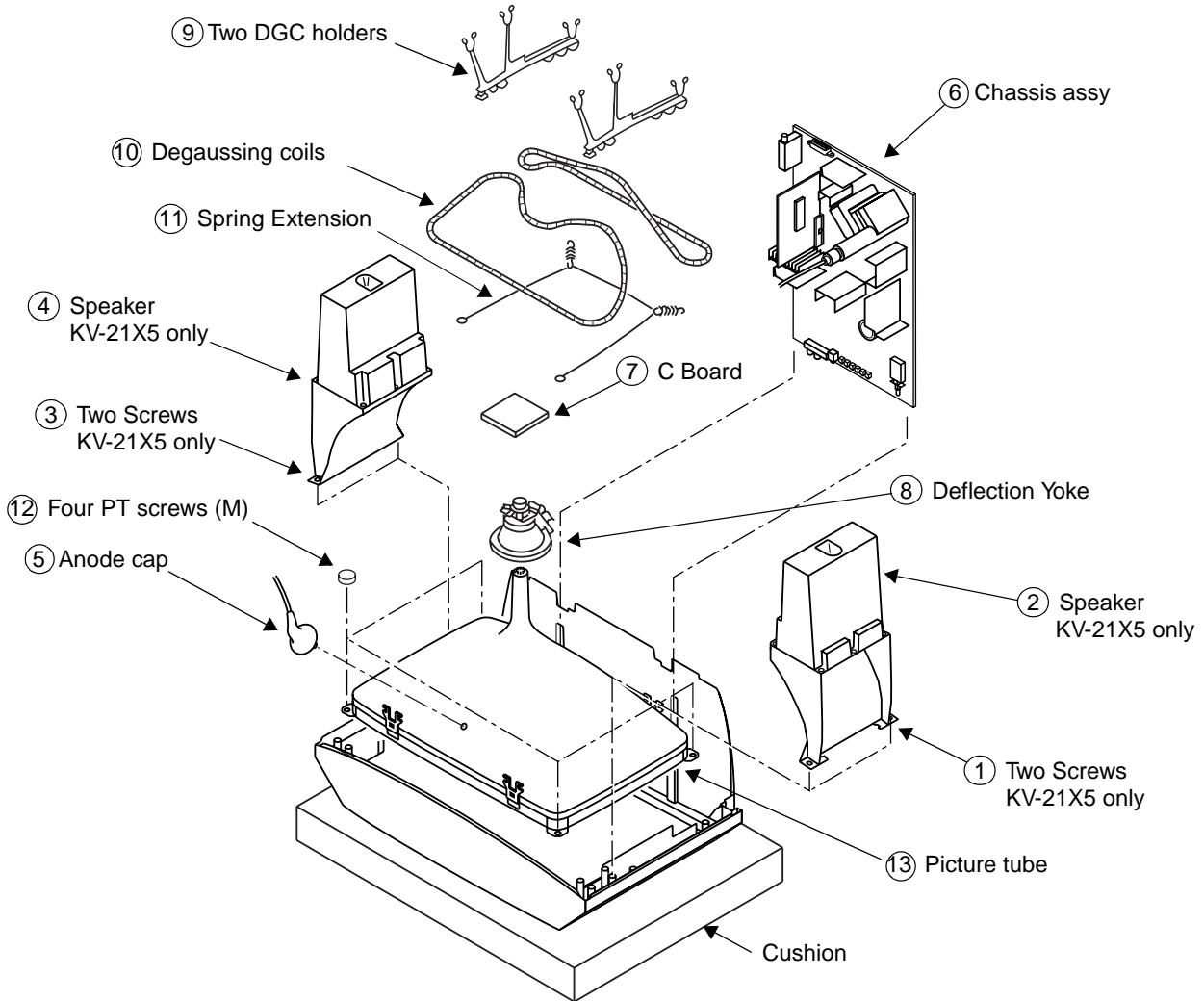
## 2-3. SERVICE POSITION



## 2-4. S1 BOARD REMOVAL



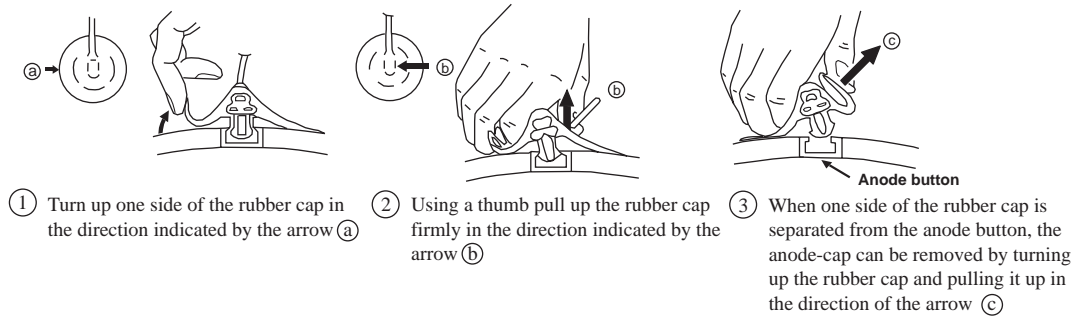
## 2-5. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

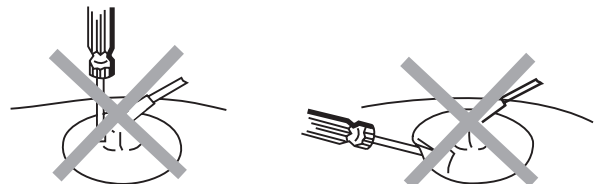
**Note :** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.



### • HOW TO HANDLE THE ANODE-CAP

- ① To prevent damaging the surface of the anode-cap do not use sharp materials.
- ② Do not apply too great a pressure on the rubber, as this may cause damage to the anode connector.
- ③ A metal fitting called a shatter hook terminal is fitted inside the rubber cap. Do not turn the rubber foot over excessively this may cause damage if the shatter hook sticks out.



# REMOVAL AND REPLACEMENT OF THE MAIN-BRACKET BOTTOM PLATES.

## (1) REMOVING THE PLATES

In the event of servicing being required to the solder side of the A Board printed wiring board, the bottom plates fitted to the main chassis bracket require to be removed.

This is performed by cutting the gates with a sharp wire cutter at the locations shown and indicated by arrows.

**Note :**There are 2 plates fitted to the main bracket and secured by 4 gates.

Only remove the necessary plate to gain access to the printed wiring board.

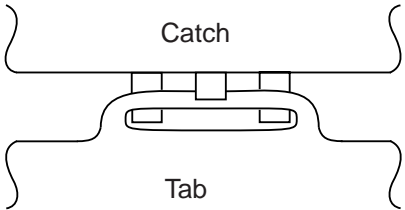
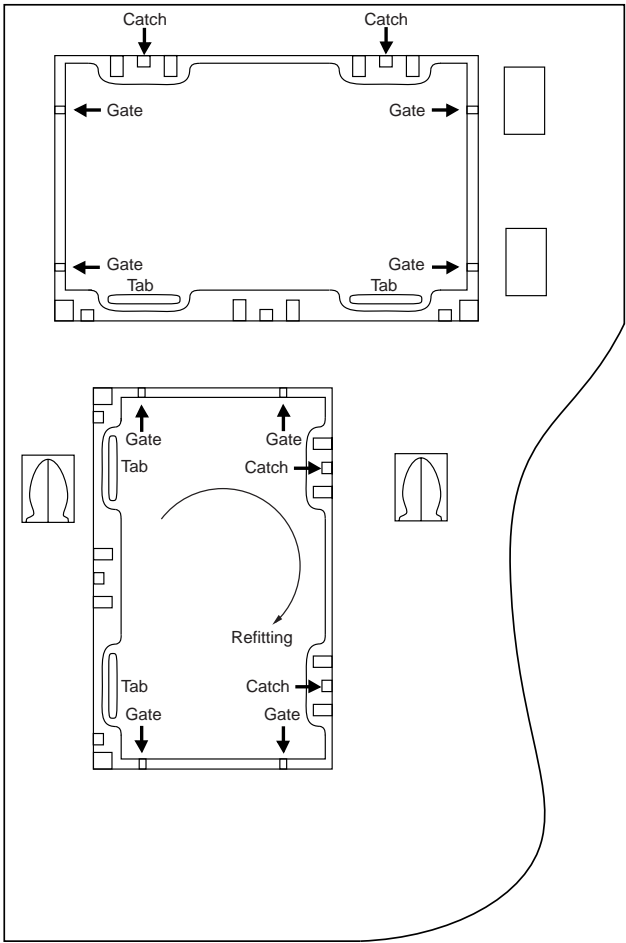


For safety reasons, on no account should the plates be removed and not refitted after servicing.

## (2) REFITTING THE PLATES

Because the plates differ in size it is important that the correct plates are refitted in their original location.

Please note that the plates need to be rotated 180 degrees from the cut position to allow the tabs to be fitted in the catch positions.



## SECTION 3 SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to the following settings :

Contrast ..... 80% [or remote control normal]  
 Brightness ..... 50%

Carry out the following adjustments in this order :

- 3-1. Beam Landing
- 3-2. Convergence
- 3-3. White balance
- 3-4. Focus

**Note :** Test equipment required

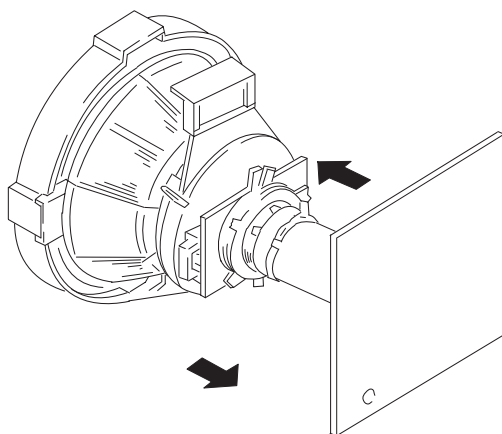
1. Color bar/pattern generator.
2. Degausser.
3. Oscilloscope.
4. Digital multimeter.
5. DC Power supply.

### Preparation:

1. In order to reduce the influence of geomagnetism on the set's picture tube, face it in an easterly or westerly direction.
2. Switch on the TV set's power and degauss with the degausser.

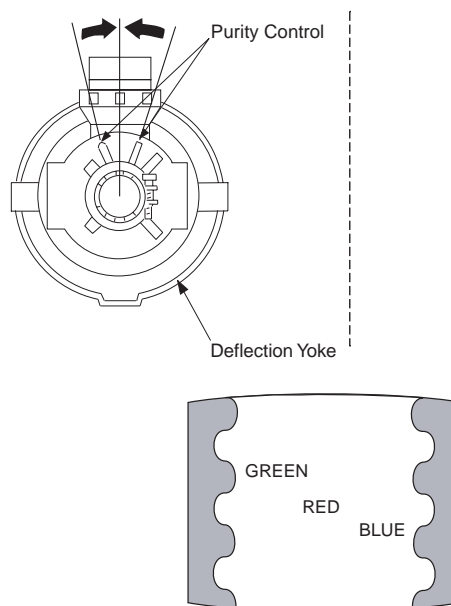
### 3-1. BEAM LANDING

1. Input an all-white signal from the pattern generator. Set the Contrast and Brightness to normal.
2. Set the pattern generator raster signal to all Red.
3. Move the deflection yolk forward and adjust with the purity control so that the Red is at the centre and the Blue and Green take up equally sized areas on each side of the screen. [See Fig.3-1 - 3-3].
4. Move the deflection yolk forward and adjust so that the entire screen becomes Red. [See Fig.3-1].
5. Switch the raster signal to Blue, then to Green and verify the purity condition.
6. When the position of the deflection yolk has been determined, fasten the deflection yolk with the screws.
7. If the beam does not land correctly in all the corners, use magnets to correct it. [See Fig.3-4].

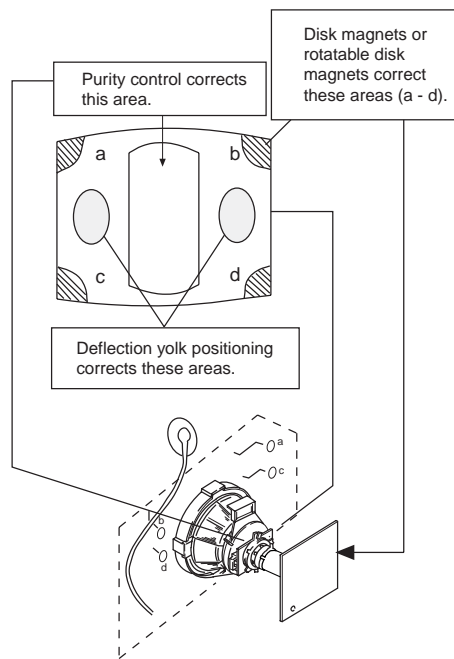


**Fig. 3-1**

**Fig. 3-2**



**Fig. 3-3**



**Fig. 3-4**

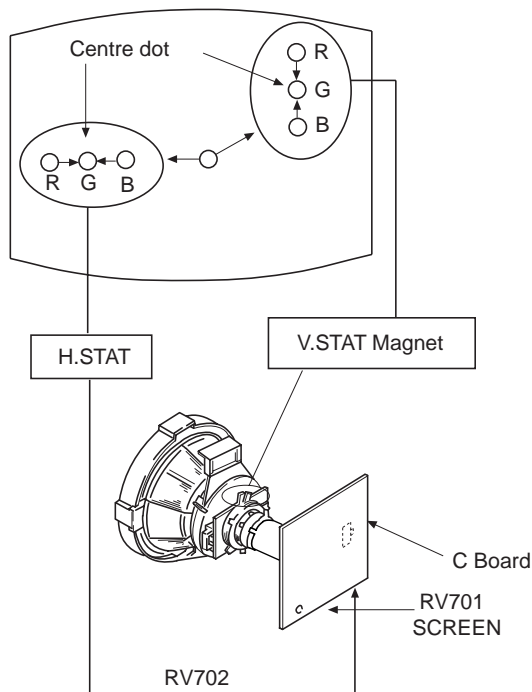


## 3-2. CONVERGENCE

### Preparation:

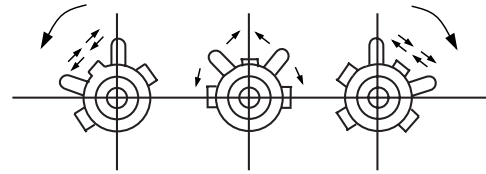
- Before starting this adjustment, adjust the focus, horizontal size and vertical size.
- Minimize the Brightness setting.
- Input a dot pattern from the pattern generator.

### (1) Horizontal and vertical static convergence

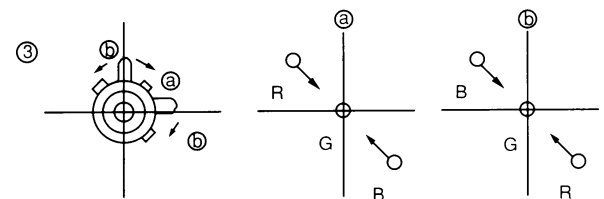
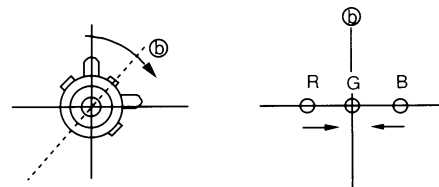
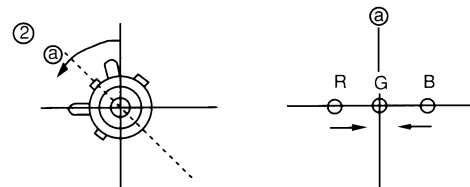
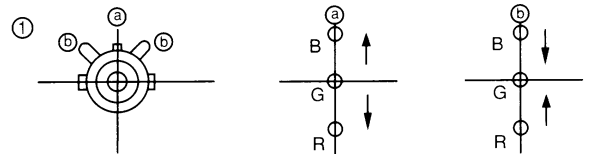


1. [Moving horizontally], adjust the H.STAT control so that the Red, Green and Blue points are on top of each other at the centre of the screen.
2. [Moving vertically], adjust the V.STAT magnet so that the Red, Green and Blue points are on top of each other at the centre of the screen.
3. If the H.STAT variable resistor is unable to bring the Red, Green and Blue points together at the centre of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner indicated below. [In this case, the H.STAT variable resistor and the V.STAT magnet influence each other].

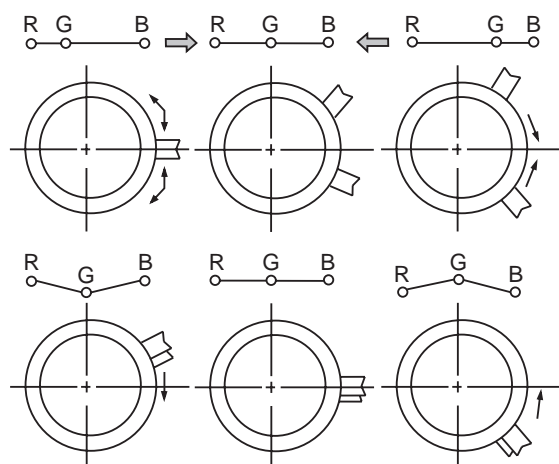
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



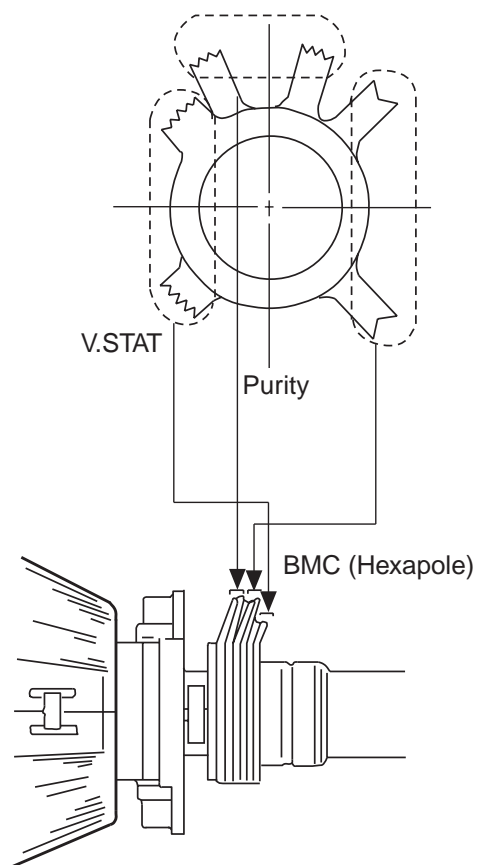
4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the Red, Green and Blue points move as indicated below.



## (2) Operation of the BMC (Hexapole) magnet.



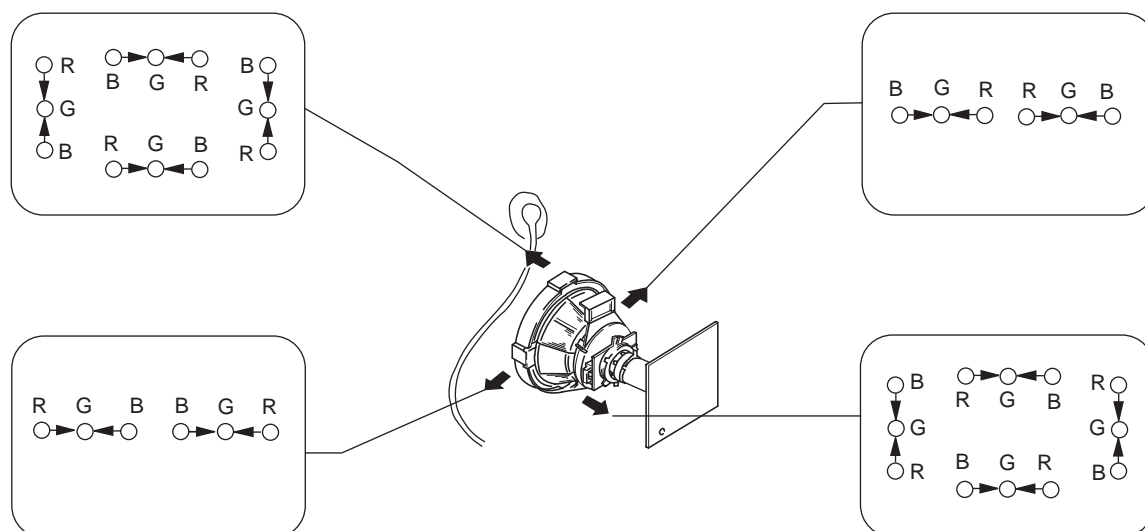
- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment whilst tracking.  
Use the H.STAT VR to adjust the Red, Green and Blue dots so that they coincide at the centre of the screen [by moving the dots in the horizontal direction].



## (3) Dynamic convergence adjustment.

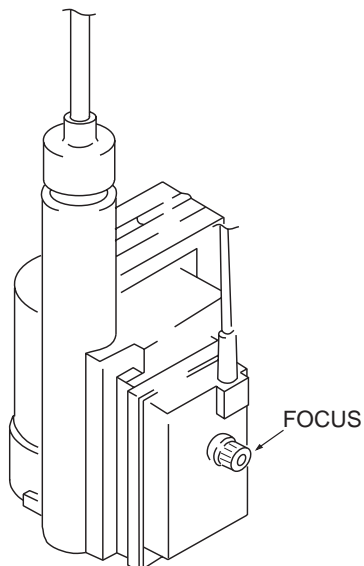
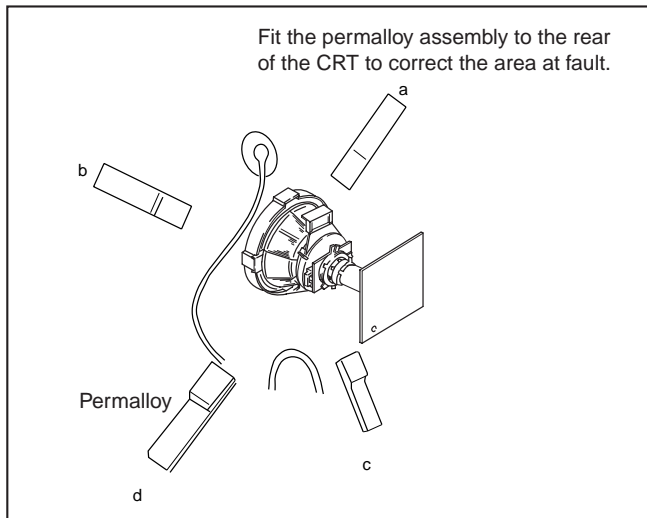
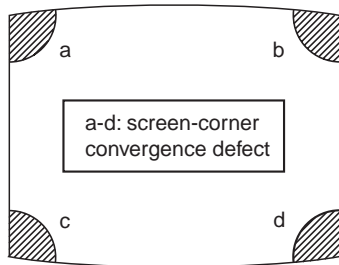
### Preparation:

- Before starting this adjustment, adjust the horizontal and vertical static convergence.
- Slightly loosen the deflection yolk screws.
  - Remove the deflection yolk spacer.
  - Move the deflection yolk as indicated in the figure below and optimize the convergence.
  - Tighten the deflection yolk screws.
  - Re-install the deflection yolk spacer.



(4) **Screen corner convergence.**

- If you are unable to adjust the corner convergence properly, this can be corrected by the use of permalloy assemblies.



### 3-3. Screen [G2], White balance

#### G2 Setting

1. Input a dot signal from the pattern generator.
2. Set the Picture, Brightness and Colour to minimum.
3. Apply 170Vdc from an external power supply to the R, G and B cathodes of the CRT.
4. Whilst watching the picture, adjust the G2 control [RV701 SCREEN] located on the C Board to the point just before the flyback return lines disappear.

#### White balance adjustment

1. Input a 'PAL' all-white signal from the pattern generator.
2. Enter into the Service Mode.
3. Enter into the 'Picture' service menu.
4. Select the 'Green drive' and adjust so that the White Balance becomes optimum.
5. Select the 'Blue drive' and adjust so that the White Balance becomes optimum.
6. Set the Picture to MIN.
7. Set the 'R-cut-off' to 07.
8. Adjust the 'G-cut-off', and the 'B-cut-off' so that the White Balance becomes optimum.
10. Press the ☐ button to return to TV operation.

#### PICTURE

R - Drive	Adj
G - Drive	Adj
B - Drive	Adj
R - cut - off	Adj
G - cut - off	Adj
B - cut - off	Adj
ID - start	02
ID - stop	01
ID - level	01
Bellfo	Adj
Sub Colour	Adj
Sub Brightness	Adj

### 3-4. FOCUS

1. Input a Phillips colour pattern
2. Set the picture settings to normal.
3. Adjust the focus control located on the Flyback transformer to bring the centre of the screen into focus.

**Note** :Bring only the centre area of the screen into focus, switch to an all-white pattern and confirm that the magenta ring is hardly noticed. To obtain optimum focus balance the focus setting between optimum screen centre focus and a reduced magenta ring level.

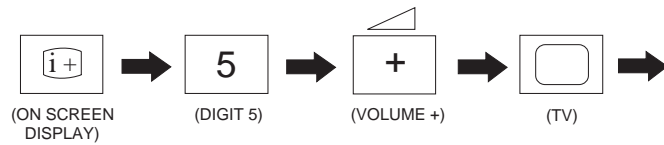
## SECTION 4 CIRCUIT ADJUSTMENTS

### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustments to this model can be performed using the supplied Remote Commander RM-883.

#### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch and enter into the stand-by mode.
2. Press the following sequence of buttons on the Remote Commander.



- 'TT--' will appear in the upper right corner of the screen.  
Other status information will also be displayed.
3. Press 'MENU' on the remote commander to obtain the following menu on the screen.

TEST MENU
> Picture Geometry Sound TV Status AGC Adjust Technical

4. Move to the corresponding adjustment item using the 'Green' [up] or 'Blue' [down] buttons on the Remote Commander.
5. Press the 'Yellow' button to enter into the required menu item.
6. Press the 'Menu' button on the Remote Commander to quit the Service Mode when all adjustments have been completed.

**Note :** The data shown in the 'TV STATUS' table is dependant on destination and country.

#### PICTURE

R - Drive	Adj
G - Drive	Adj
B - Drive	Adj
R - cut - off	Adj
G - cut - off	Adj
B - cut - off	Adj
ID - start	02
ID - stop	01
ID - level	01
Bell-f0	Adj
Sub Colour	Adj
Sub Brightness	Adj

#### GEOMETRY

V centre	Adj
V size	Adj
V Lin	Adj
S Corr	Adj
H Cent	Adj
H Size	Adj
Pin Amp	Adj
Corner Pin	Adj
Pin Phase	Adj
V Bow	Adj
V Angle	Adj
Upper V Lin	Adj
Lower V Lin	Adj
Left HBLK	07
Right HBLK	07
CD Mode (AV)	01

#### SOUND

Nicam Error Lower	20
Nicam Error Upper	80
Nicam Error Rate	xx [Status only]
AGC Gain Level	xx [Status only]

#### TV STATUS

Destination	A/L/E/U/D/B/K/R
Text Language	East/West

#### TECHNICAL

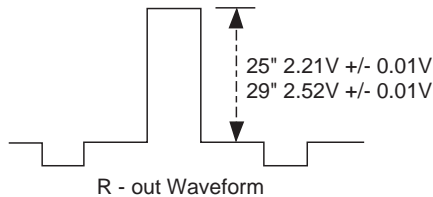
GD - Secam	30
BD - Secam	31
RC - Secam	11
GC - Secam	19
BC - Secam	10
GD - Sports	30
BD - Sports	36
RC - Sports	14
GC - Sports	15
BC - Sports	17
Y - Delay (AV)	07

#### SUB BRIGHTNESS ADJUSTMENT

1. Input a Phillips colour pattern.
2. Press 'TEST' 'TEST' 13 on the Remote Commander.
3. Adjust the 'Sub-Brightness' data so that there is barely a difference between the 0 IRE and 10 IRE signal levels.

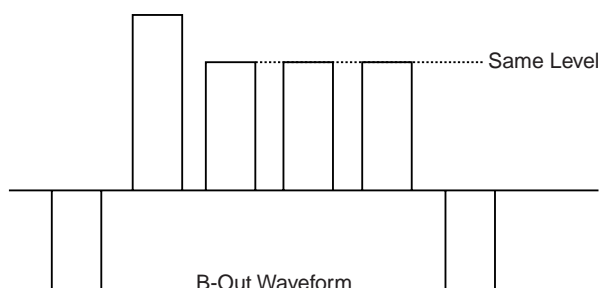
#### SUB CONTRAST ADJUSTMENT

1. Input a video signal that contains a small 100% white area on a black background
2. Set the picture control to maximum. ['TT01']
3. Connect an oscilloscope to Pin 1 of CN504 [A Board].
4. Enter into the 'Picture' service menu.
5. Adjust the 'R - Drive' data to obtain the following waveform.



#### SUB COLOUR ADJUSTMENT

1. Receive a PAL colour bar signal.
2. Connect an oscilloscope to Pin 3 of CN504 [A Board].
3. Enter into the 'Picture' service menu.
4. Adjust the 'Sub Colour' data so that the Cyan, Magenta and Blue colour bars are of equal levels as indicated below.



**Note:** Ensure that no signal is applied to the Antenna socket while carrying out the following IF adjustments.

#### SYSTEM B/G, D/K, I & L I.F ADJUSTMENT

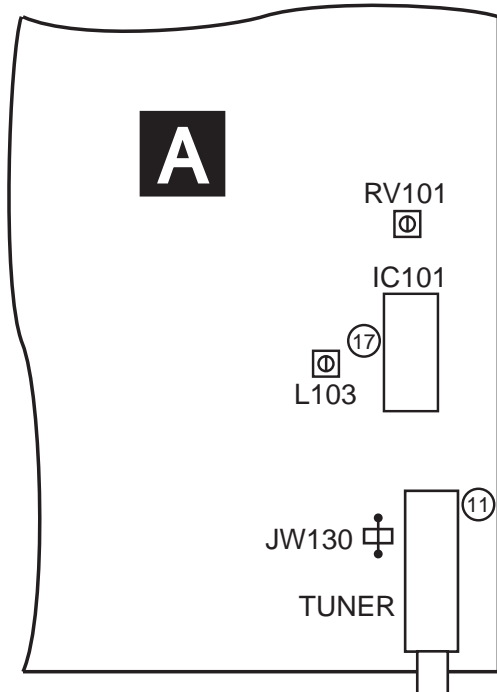
1. Input a 38.9Mhz carrier signal at 100dBuV to Pin 11 [IF output] of the tuner [TU101].
2. Measure the voltage at Pin 17 of [IC101].
3. Adjust L103 [A Board] to obtain a voltage of 2.5V +/- 0.3V.

#### SYSTEM L BAND 1 I.F ADJUSTMENT

1. Input a 34.0MHz carrier signal at 100dBuV to Pin 11 [IF output] of the tuner [TU101].
2. Select 'system L' + C00 [channel 00].
3. Measure the voltage at Pin 17 [IC101].
4. Adjust RV101 [A Board] to obtain a voltage of 2.5V +/- 0.3V.

#### TUNER AGC ADJUSTMENT

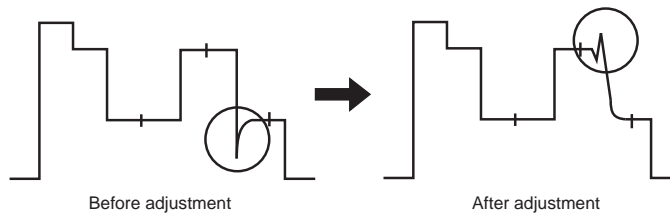
1. Receive a signal of 65dBuV / 75 ohm terminated, via the tuner antenna socket.
2. Connect a voltmeter to JW130 [A Board].
3. Enter into the 'Test Menu'.
4. Select the 'AGC Adjust' menu item.
5. Adjust the data using the Yellow and Green buttons on the Remote Commander to obtain a voltage of 3.0V +/- 0.2V.



## BELL FILTER ADJUSTMENT (Secam models only).

**Note :** Ensure that the TV set has been powered up for at least 1 minute to allow for drift before carrying out the following adjustment.

1. Input a video SECAM Colour Bar signal via AV1.
2. Connect an oscilloscope to pin 1 of CN504 [R-OUT] on the A board.
3. Enter into the 'Picture' menu and select 'Bell-f0'.
4. Decrease the register of 'Bell-f0' until the following waveform change between RED and BLUE is obtained.



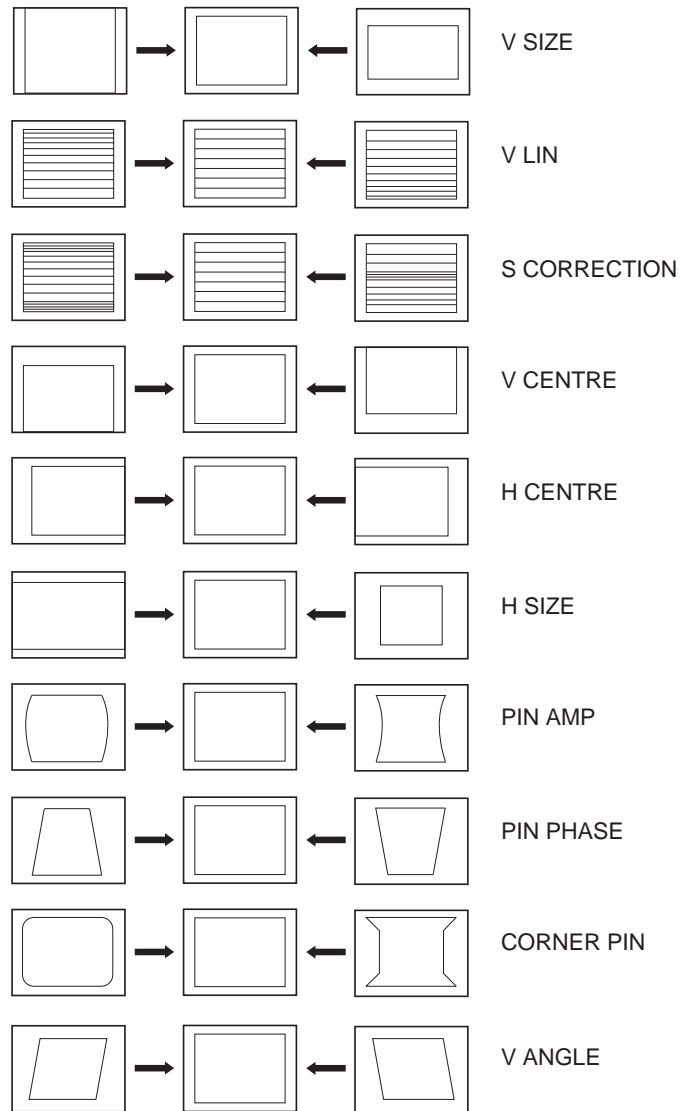
5. When the correct waveform has been obtained add an additional 7 steps to the register.

## DEFLECTION SYSTEM ADJUSTMENT


1. Enter into the 'Geometry' service menu.
2. Select and adjust each item in order to obtain the optimum image.

### GEOMETRY

V centre	Adj
V size	Adj
V Lin	Adj
S Corr	Adj
H Cent	Adj
H Size	Adj
Pin Amp	Adj
Corner Pin	Adj
Pin Phase	Adj
V Bow	Adj
V Angle	Adj
Upper V Lin	Adj
Lower V Lin	Adj
Left HBLK	07
Right HBLK	07
CD Mode (AV)	01



## 4-2. TEST MODE 2:

Is available by pressing 'TEST' button twice, OSD 'TT' appears. The functions described below are available by pressing the two numbers. To release the Test mode 2, press 0 twice, or switch the TV into stand-by mode, or press the  TV button on the remote commander.

00	Cancel Test mode
01	Picture maximum
02	Picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing mode On/Off
08	Set shipping conditions
09	Display TV Status
10	No function
11	Sub Picture Adjustment
12	Sub Colour Adjustment
13	Sub Brightness Adjustment
14	Text H position Adjustment
15	Rotation test
16	Picture level 50%
17	Audio mute ON
18	Disable Blanking
19	No function
20	No function
21	Destination A
22	Destination L
23	Destination E
24	Destination U
25	Destination D
26	Destination B
27	Destination K
28	Destination R
29	No function
30	No function
31	Auto shutoff Disable/Enable
32	RGB priority Disable/Enable
33	Rotation On/OFF
34	Text language East/West
35	Wide CRT/4:3 CRT
36	VM ON/OFF test
37	No function
38	No function
39	No function
40	No function
41	Re-initialize the NVM [Only when Prog=59]

42	Re-initialise geometry settings [Only when Prog=59]
43	No function
44	No function
45	No function
46	No function
47	No function
48	Set NVM as NON Virgin [Only when Prog=59]
49	Set NVM as Virgin [Only when Prog=59]
50	No function
51	No function
52	No function
53	No function
54	No function
55	No function
56	No function
57	No function
58	No function
59	No function
60	No function
61	Auto AGC Adjust
62	Alternative Dest B Autotuning
63	Enable/Disable Y/C input
64	Signal Quality Check for Auto Tune
65	Signal Quality NOT Checked for Auto Tune
66	No function
67	Manual AGC Adjust
68 -100	No function

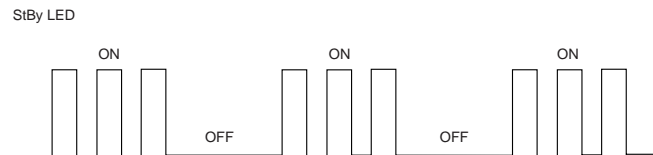
4-3. FE-1 SELF DIAGNOSTIC SOFTWARE

The identification of errors within the FE-1 chassis is triggered in one of two ways :- 1: Busy or 2: Device failure to respond to IIC. In the event of one of these situations arising the software will first try to release the bus if busy (Failure to do so will report with continuous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the LED (Series of flashes which must be counted) See Table 1., non fatal errors are reported using this method. Each time the software detects an error it is stored within the NVM. See Table 2.

Table 1

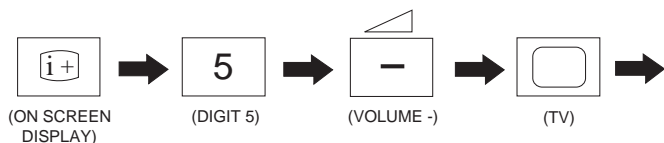
ERROR	LED ERROR COUNT
No error	00
Not allowed (may be confused with Sircs response flash!)	01
Protection circuit trip < ANY TIME >	02
Reserved	03
No vertical sync	04
AKB	05
IIC bus clock and/or data lines low at Power ON	06
NVM no IIC bus acknowledge at Power ON	07
Jungle controller no IIC acknowledge at Power ON	08
Tuner no acknowledge at Power ON	09
Sound processor no acknowledge at Power ON	10

Flash Timing Example : e.g. error number 3



How to enter into Table 2

1. Turn on the main power switch of the TV set and enter into the 'Standby Mode'.
2. Press the following sequence of buttons on the Remote Commander.



3. The following table will be displayed indicating the error count.

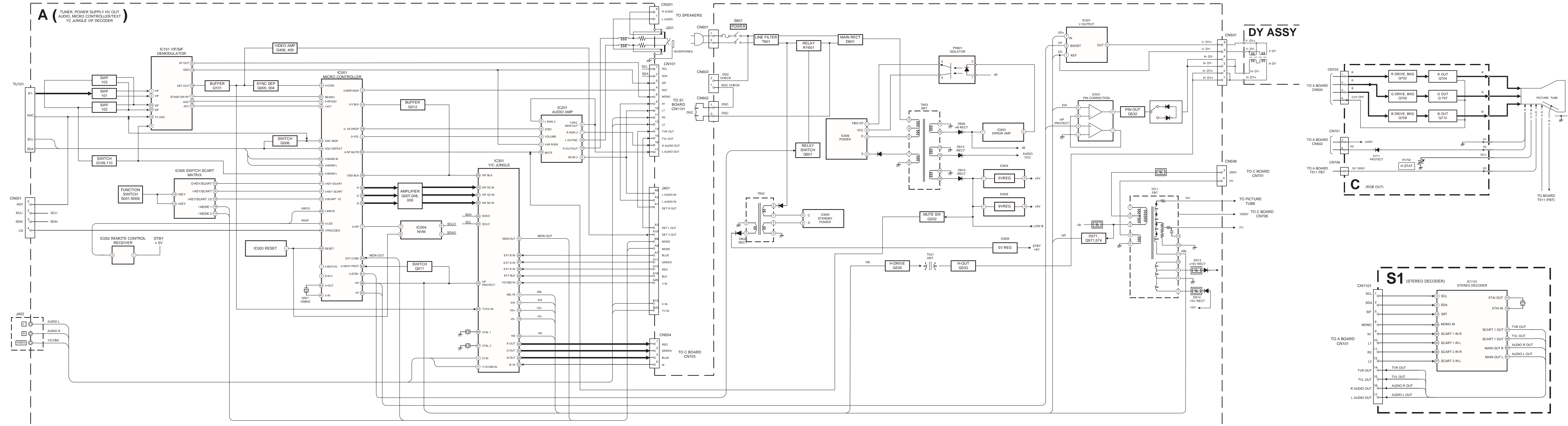
Table 2

Error	Times
2	-
3	-
4	-
5	-
6	-
7	-
8	-
9	-
10	-

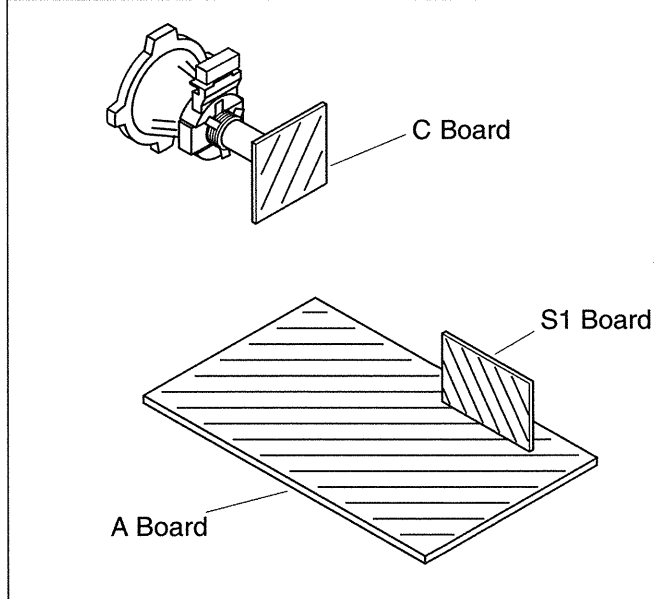
**Note:** To clear the error count data press '80' on the Remote commander.



## 5-1 BLOCK DIAGRAMS



5-2. CIRCUIT BOARD LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- Note :**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted.
  - $\text{pF}$  :  $\mu\text{F}$  50WV or less are not indicated except for electrolytic types.
  - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5mm  
Electrical power rating : 1/4W

- Chip resistors are 1/10W
- All resistors are in ohms.  
k = 1000 ohms, M = 1000,000 ohms

- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation or adjustment for repair.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in Volts.
- Readings are taken with a 10Mohm digital multimeter.
- Readings are taken with a color bar input signal.
- Voltage variations may be noted due to normal production tolerances.

- : B + bus.
- : B - bus.
- : RF signal path.
- : earth - ground.
- : earth - chassis.

Reference Information

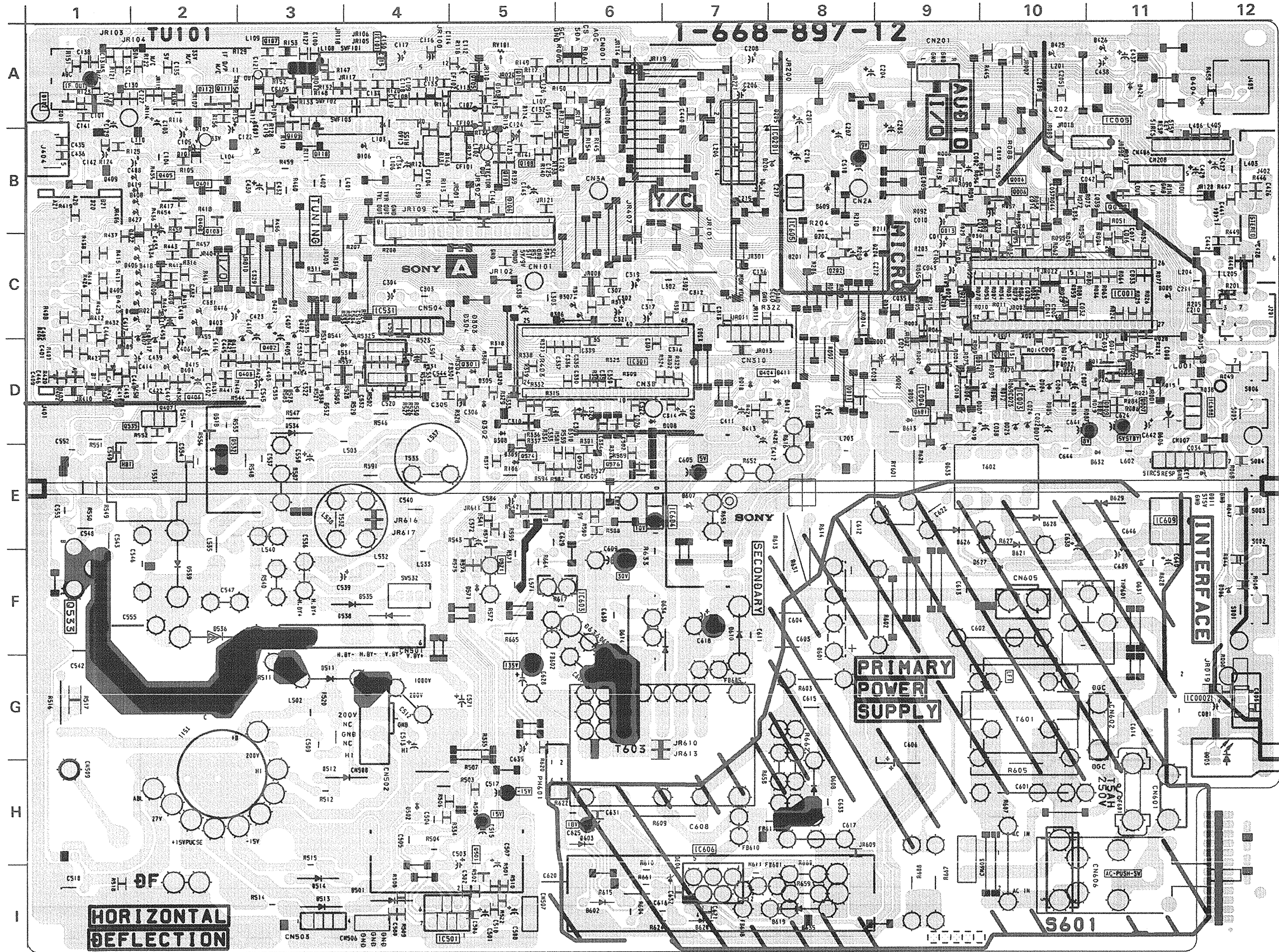
RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NON FLAMMABLE CARBON
	FUSE	: NON FLAMMABLE FUSIBLE
	RS	: NON FLAMMABLE METAL OXIDE
	RB	: NON FLAMMABLE CEMENT
	RW	: NON FLAMMABLE WIREWOUND
		: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

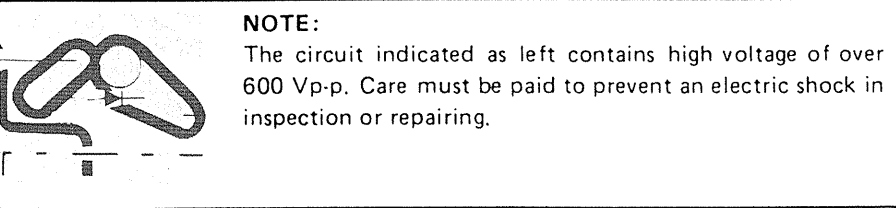
**A** [ POWER SUPPLY, DEFLECTION, TUNING, PROCESSOR, VIDEO SIGNAL PROCESSOR, AV IN/OUT ]

A Board



A BOARD

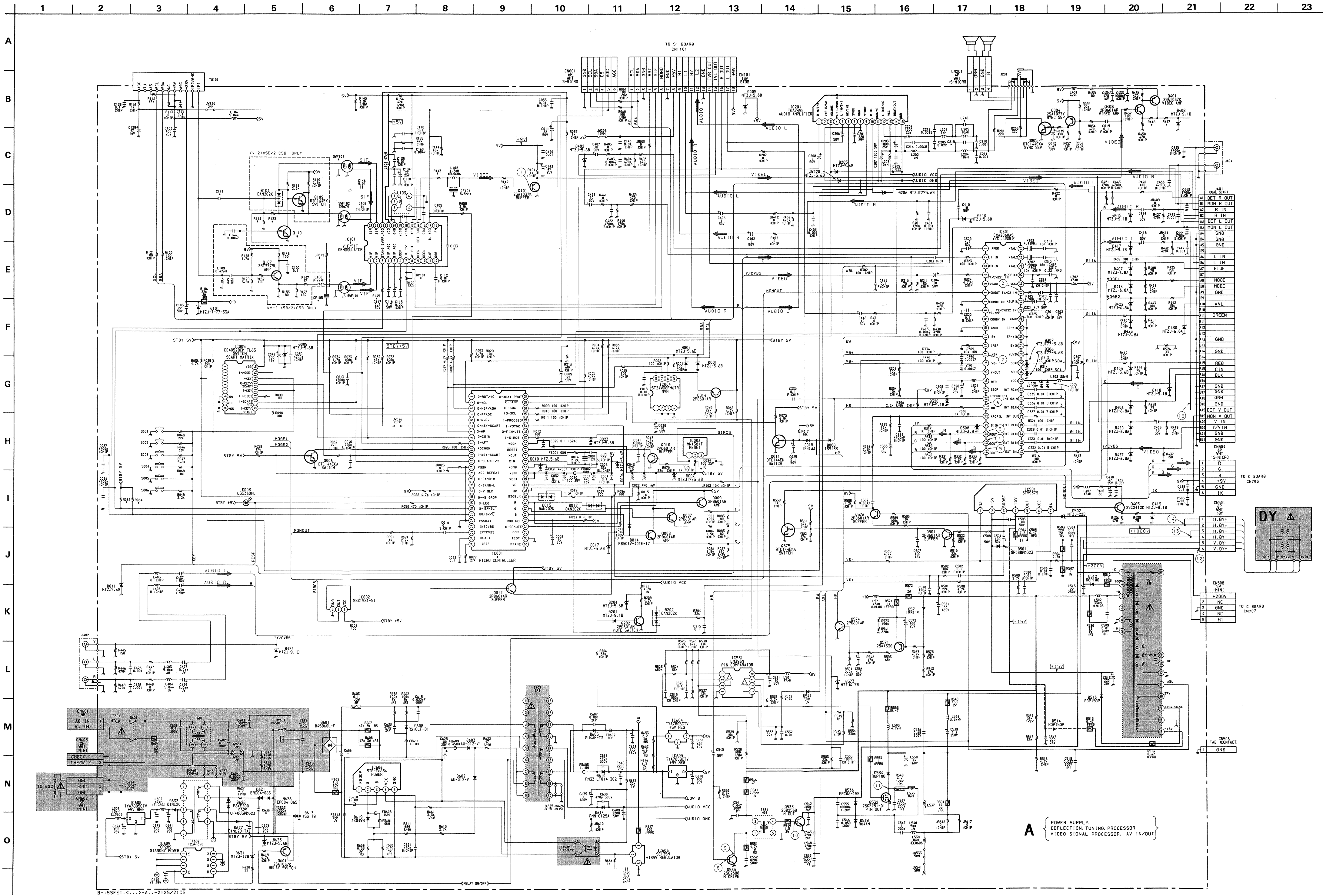
IC	Q574 E - 5		D420 C - 1	
	IC001	C - 11	Q575	E - 6
IC002	G - 12	Q576	E - 6	D424 A - 11
IC003	D - 10	Q601	D - 9	D427 B - 2
IC004	D - 9	DIODE		D501 I - 4
IC005	B - 11			D502 H - 4
IC101	A - 4	D001	D - 9	D512 H - 3
IC201	B - 7	D002	D - 8	D513 I - 3
IC301	D - 6	D003	H - 12	D514 I - 3
IC501	I - 4	D004	D - 10	D534 D - 3
IC531	D - 4	D005	D - 9	D535 F - 4
IC603	F - 6	D007	D - 10	D536 F - 2
IC604	E - 6	D008	D - 7	D538 F - 4
IC605	C - 8	D009	C - 11	D539 F - 2
IC606	I - 7	D010	D - 10	D541 D - 3
IC608	D - 12	D011	E - 12	D571 F - 5
IC609	E - 11	D012	D - 11	D573 D - 3
TRANSISTOR		D014	D - 11	D601 G - 8
		D015	D - 11	D602 I - 6
Q004	B - 10	D017	D - 10	D603 H - 6
Q005	C - 10	D018	D - 7	D605 G - 6
Q006	B - 10	D023	E - 10	D608 H - 8
Q007	D - 11	D101	B - 2	D610 F - 7
Q008	D - 11	D201	C - 8	D613 E - 9
Q009	D - 11	D202	C - 8	D614 G - 6
Q010	D - 10	D204	C - 9	D619 I - 8
Q011	D - 8	D205	B - 8	D621 F - 10
Q012	B - 11	D206	B - 7	D626 F - 9
Q014	C - 9	D306	C - 6	D627 F - 9
Q101	B - 5	D307	C - 6	D628 E - 10
Q107	A - 3	D308	E - 5	D629 E - 11
Q109	B - 3	D320	D - 6	D631 F - 11
Q110	B - 3	D402	C - 2	D632 E - 11
Q202	C - 8	D405	C - 1	D633 E - 9
Q401	B - 2	D406	C - 2	D627 F - 9
Q405	B - 2	D407	D - 2	
Q408	B - 2	D408	B - 1	
Q501	I - 5	D410	C - 3	
Q532	E - 2	D415	D - 2	
Q533	F - 1	D417	D - 2	
Q535	D - 2	D418	C - 1	
Q571	F - 5	D419	B - 1	



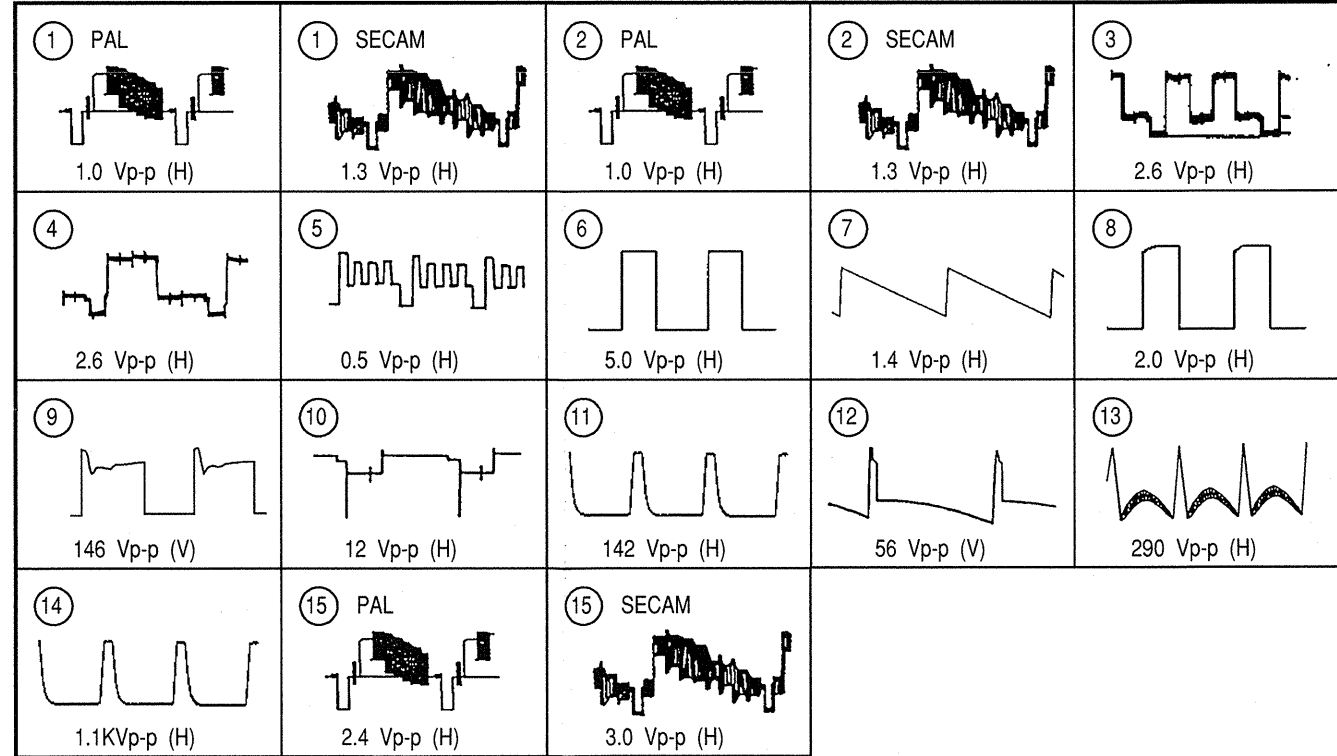
A BOARD IC VOLTAGE TABLE

IC Voltage Table								
Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)	Ref No	Pin No	Voltage (V)
IC001	4	0.8	IC101	5	2.8	IC301	20	3.8
	6	3.2		6	2.7		21	1.6
	7 - 8	4.8		7	3.9		22 - 24	1.5
	9	0.3		8	2.2		26 - 28	4.5
	10	2.0		12	2.0		30	4.5
	11	1.5		15	1.5		31 - 32	4.4
	12	4.7		17	0.3		33	8.1
	19	3.6		18 - 19	2.6		34 - 35	3.3
	20	4.3		21	4.7		41	5.0
	21	4.8		22	0.9		42	8.6
	24	2.5		23 - 24	3.2		43	5.0
	25	2.1		1	15.3		44	8.8
	26	2.4	5	15.3	45		5.2	
	30	4.8	7	15.3	48		1.5	
	31	5.0	10	4.5	1		1.4	
	36	0.2	12	15.3	2	14.0		
	37	0.1	13	31.2	3	-13.0		
	38 - 39	5.0	14	15.3	4	-14.0		
	41 - 42	2.2	1	3.3	5	0.2		
	44	4.8	2	5.0	6	14.5		
	45	2.8	3	4.3	7	1.4		
	47	0.1	4	5.0	1	1.6		
48	2.4	6	4.4	2	1.7			
49	3.3	8	4.5	3	1.9			
50	3.1	11	3.9	5	2.8			
51	0.1	12	2.4	6	2.0			
IC004	5 - 6	4.8	13	3.5	7	7.3		
	7	3.3	14	3.4	8	8.8		
	8	3.2	15	5.6	1 - 2	-60.0		
IC101	1 - 2	3.2	16	7.6	IC609	4	-51.3	
	3	4.8	18	1.3		4	-58.0	
		4	3.0	19	2.4			





WAVEFORMS A BOARD



A BOARD TRANSISTOR VOLTAGE TABLE

Ref No	(B) Base	(C) Collector	(E) Emitter
Q004	4.7	0.7	4.9
Q005	0.3	4.8	-
Q006	-	2.0	-
Q007	-	4.9	-
Q008	-	4.9	-
Q009	-	4.9	-
Q010	0.6	-	-
Q011	0.5	-	-
Q012	-	4.8	-
Q013	2.0	-	2.6
Q109	-	4.7	-
Q110	4.3	-	-
Q202	0.6	-	-
Q401	8.0	3.4	8.6
Q408	2.6	8.0	2.0
Q532	7.3	3.1	-
Q533	-0.2	-152.0	-
Q535	-0.7	92.0	-
Q571	134.2	-	134.4
Q574	-	2.0	-
Q576	3.4	6.7	2.8
Q601	4.0	3.6	4.8

A BOARD MARK

Ref	21C5B	21C5D	21C5E	21C5K	21C5R	21X5A	21X5B	21X5D	21X5E	21X5K	21X5L	21X5R	21X5U
C111	0.01MF	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	0.01MF	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
C133	1MF	-	-	-	-	-	1MF	-	-	-	-	-	-
C218	0.001MF	-	-	-	-	-	0.001MF	-	-	-	-	-	-
C219	0.001MF	-	-	-	-	-	0.001MF	-	-	-	-	-	-
C506	220MF 400V	220MF 400V	220MF 400V	220MF 450V	220MF 450V	220MF 400V	220MF 400V	220MF 400V	220MF 400V	220MF 450V	220MF 450V	220MF 450V	220MF 400V
C638	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 450V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 400V	10MF 450V	10MF 400V
CF105	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC	TRAP CERAMIC
IC001	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074	SA45497PS/ M1A074
IC101	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1	TD9817V1
JR012	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
Q110	DT144EKA	-	-	-	-	-	DT144EKA	-	-	-	-	-	-
R063	4.7K	-	-	-	-	-	4.7K	-	-	-	-	-	-
R064	4.7K	-	-	-	-	-	4.7K	-	-	-	-	-	-
R112	2.2K	-	-	-	-	-	2.2K	-	-	-	-	-	-
R133	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	-	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0	SHORT 0
R143	100	180	180	180	180	180	100	180	180	180	180	180	180
R149	1K	-	-	-	-	-	1K	-	-	-	-	-	-
R417	75	75	75	75	75	75	75	75	75	75	68	75	68
R418	470	470	470	470	470	470	470	470	470	470	560	470	560
RV101	22K	-	-	-	-	-	22K	-	-	-	-	-	-
SWF101	1-579-273-11	1-767-874-11	1-767-874-11	1-767-874-11	1-767-874-11	1-767-874-11	1-579-273-11	1-767-874-11	1-767-874-11	1-767-874-11	1-579-273-11	1-767-874-11	1-579-273-11
SWF103	1-767-083-11	-	-	-	-	-	1-767-083-11	-	-	-	-	-	-
TU101	TELE9-001A	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	TELE9-001A	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411	FSS BTP-AC411



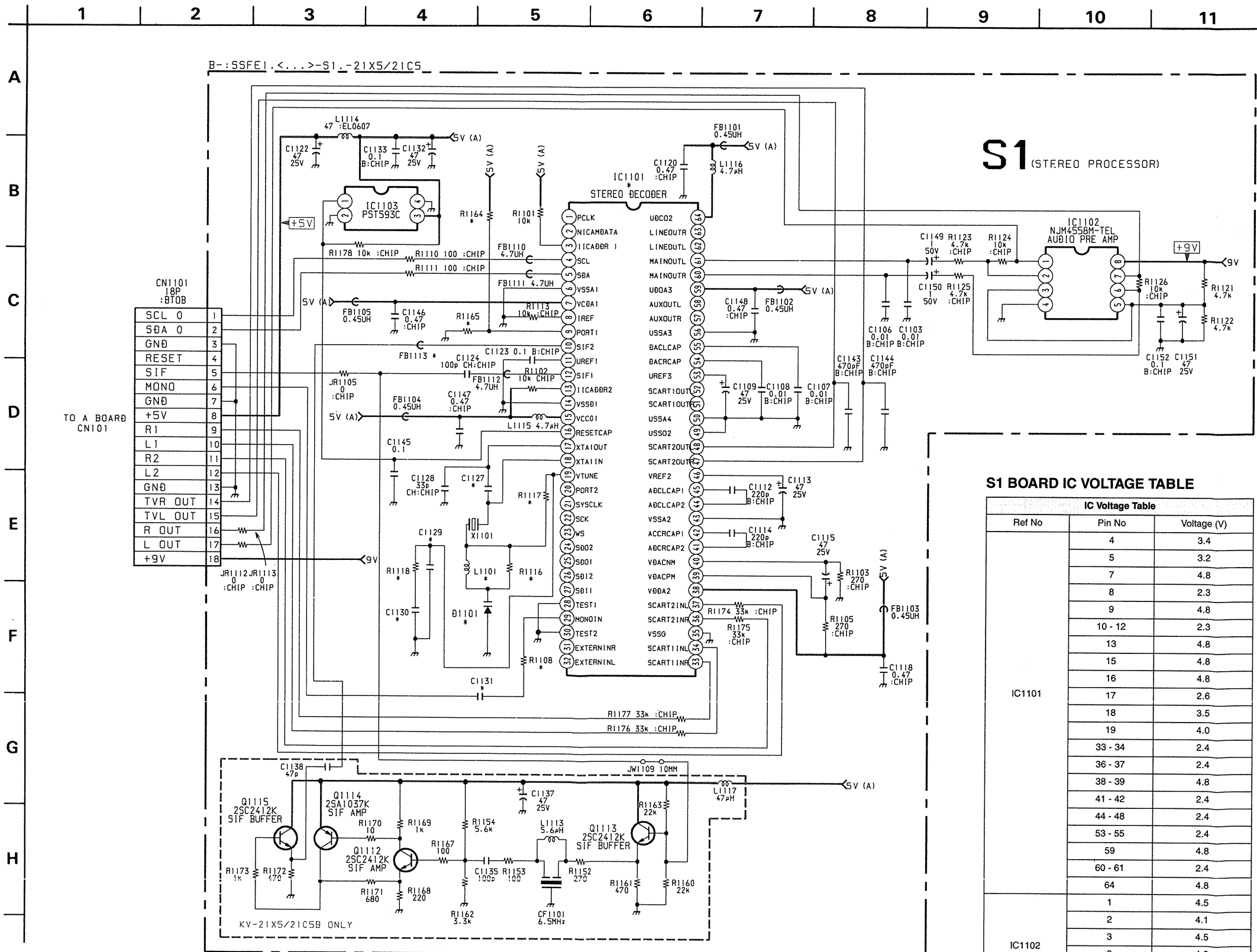
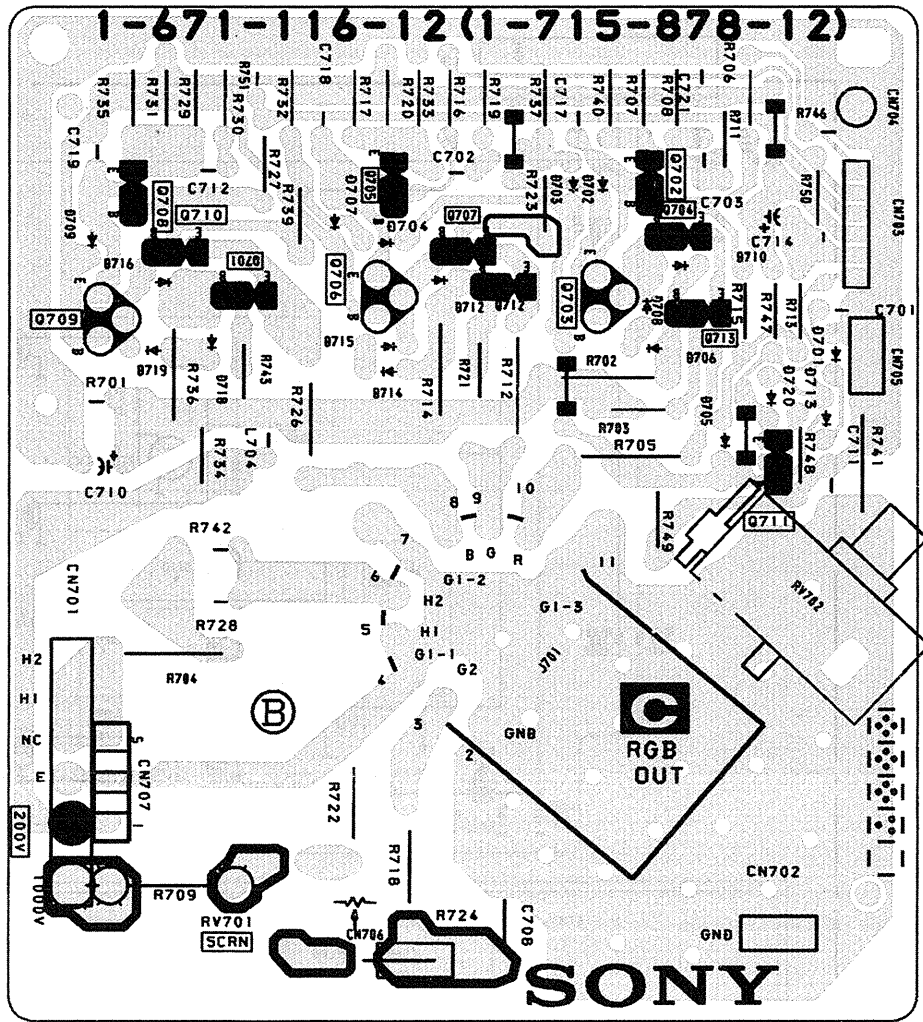
S1 [STEREO PROCESSOR]

S1 BOARD \* MARK

Ref	21CSB	21CSD	21CSE	21CSK	21CSR	21XSA	21XSB	21XSD	21XSE	21XSK	21XSL	21XSR	21XSU
C1127	33PF	22PF	33PF	33PF	22PF	22PF	33PF	22PF	33PF	33PF	22PF	33PF	33PF
C1129	0.033MF	-	0.033MF	0.033MF	-	-	0.033MF	-	0.033MF	0.033MF	0.033MF	-	0.033MF
C1130	0.33MF	-	0.33MF	0.33MF	-	-	0.33MF	-	0.33MF	0.33MF	0.33MF	-	0.33MF
C1131	0.47MF	0.47MF	-	-	0.47MF	0.47MF	0.47MF	0.47MF	-	-	-	0.47MF	-
D1101	BB135	SHORT 0	BB135	BB135	SHORT 0	SHORT 0	BB135	SHORT 0	BB135	BB135	BB135	SHORT 0	BB135
FB113	4.7UH	-	-	-	4.7UH	-	4.7UH	-	-	-	-	-	-
IC1101	TDA9875P	TDA9870	TDA9875P	TDA9875P	TDA9870	TDA9870	TDA9875P	TDA9870	TDA9875P	TDA9875P	TDA9870	TDA9875P	TDA9875P
L1101	2.7UH	-	2.7UH	2.7UH	-	-	2.7UH	-	2.7UH	2.7UH	2.7UH	-	2.7UH
R1108	2.2K	-	-	-	-	-	2.2K	-	-	-	-	-	-
R1116	39K	SHORT 0	39K	39K	SHORT 0	SHORT 0	39K	SHORT 0	39K	39K	39K	SHORT 0	39K
R1117	10K	-	10K	10K	-	-	10K	-	10K	10K	10K	-	10K
R1118	39K	-	39K	39K	-	-	39K	-	39K	39K	39K	-	39K
R1164	10K	-	10K	10K	-	-	10K	-	10K	10K	10K	-	10K
R1185	-	SHORT 0	-	-	SHORT 0	SHORT 0	-	SHORT 0	-	-	-	SHORT 0	-

C [R, G, B OUT]

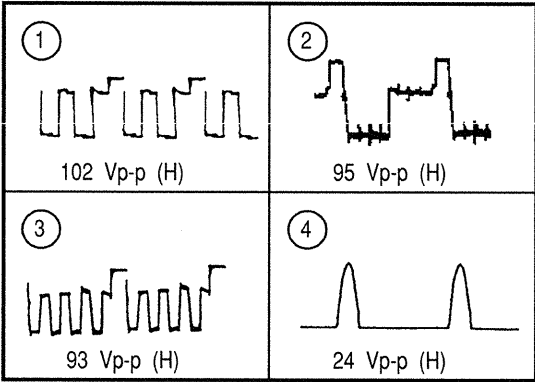
C Board



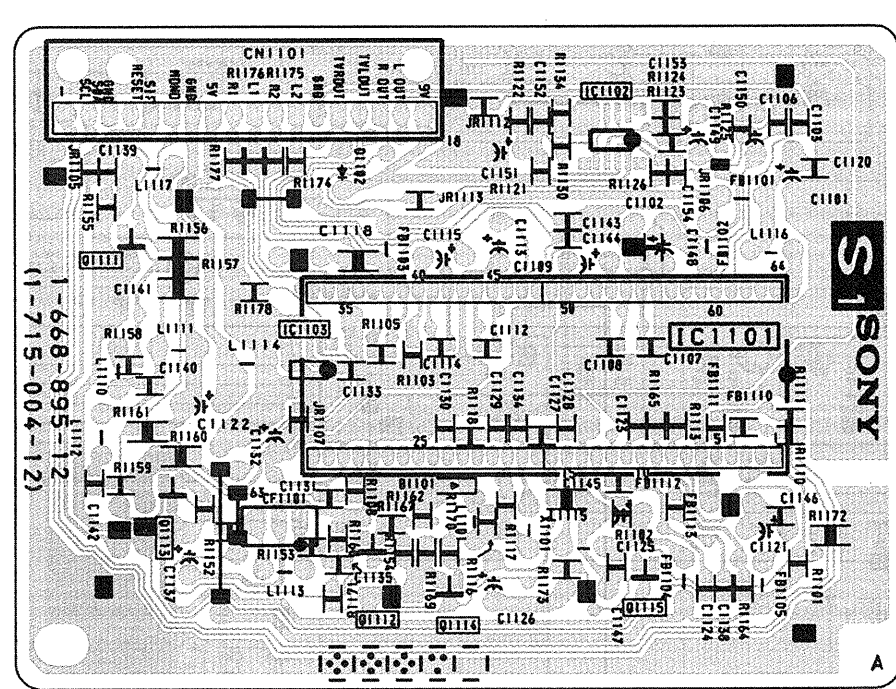
S1 BOARD IC VOLTAGE TABLE

Ref No	Pin No	Voltage (V)
IC1101	4	3.4
	5	3.2
	7	4.8
	8	2.3
	9	4.8
	10-12	2.3
	13	4.8
	15	4.8
	16	4.8
	17	2.6
	18	3.5
	19	4.0
	33-34	2.4
	36-37	2.4
	38-39	4.8
	41-42	2.4
	44-46	2.4
	53-55	2.4
	59	4.8
	60-61	2.4
IC1102	64	4.8
	1	4.5
	2	4.1
	3	4.5
	6	4.3
	7	3.5
	8	9.0
	9	4.5

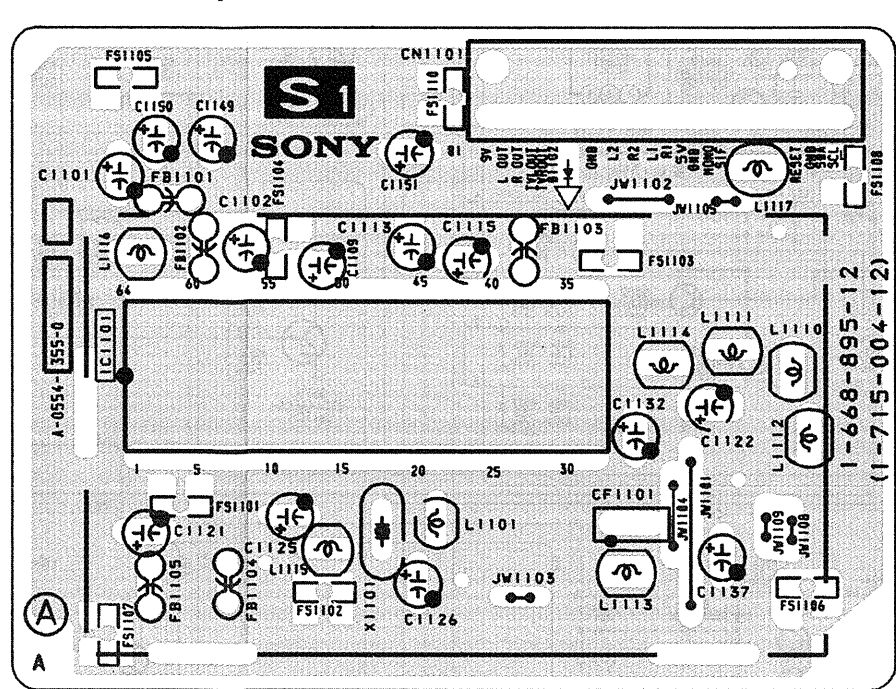
WAVEFORMS C BOARD



S1 Board < Conductor Side >

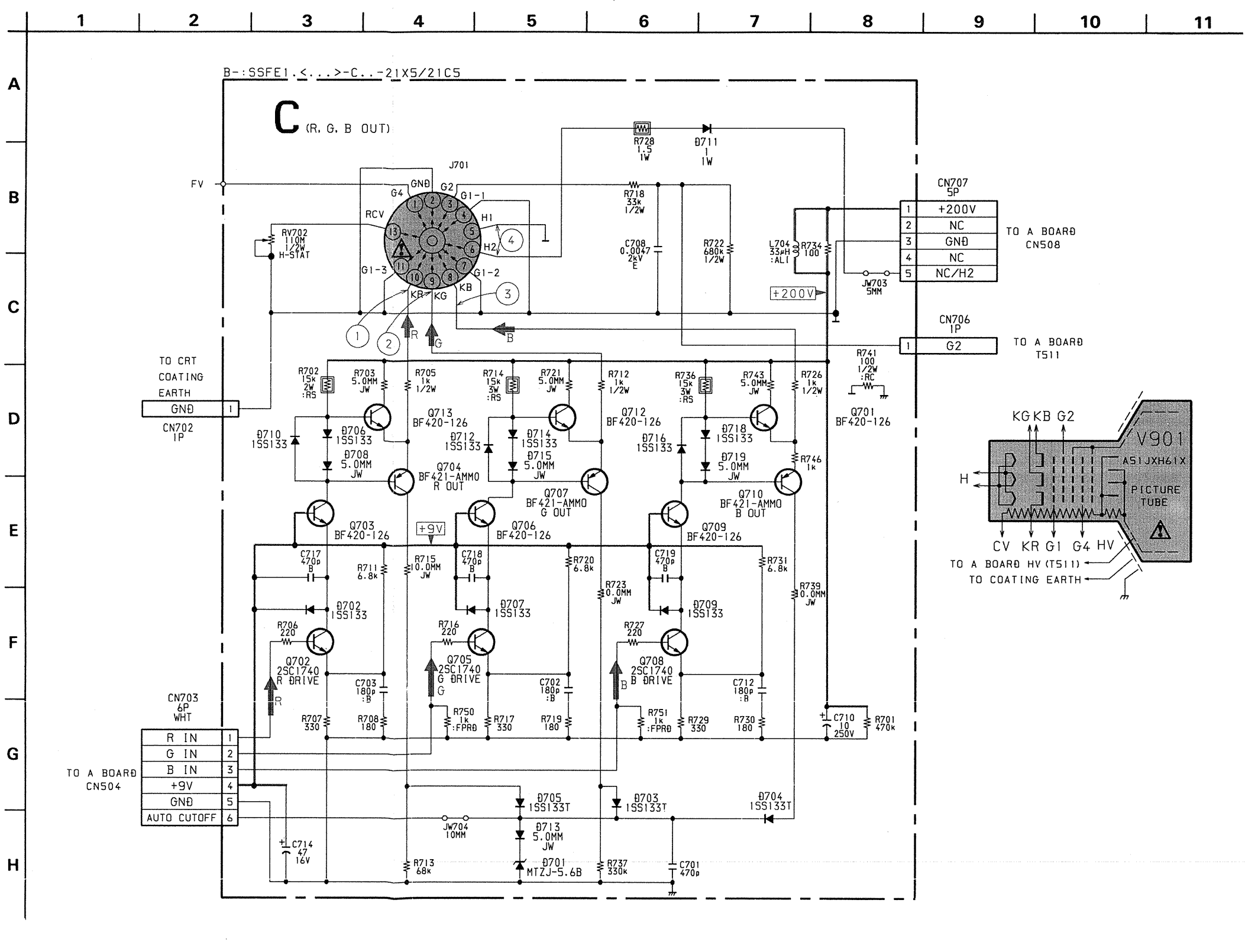


S1 Board < Component Side >

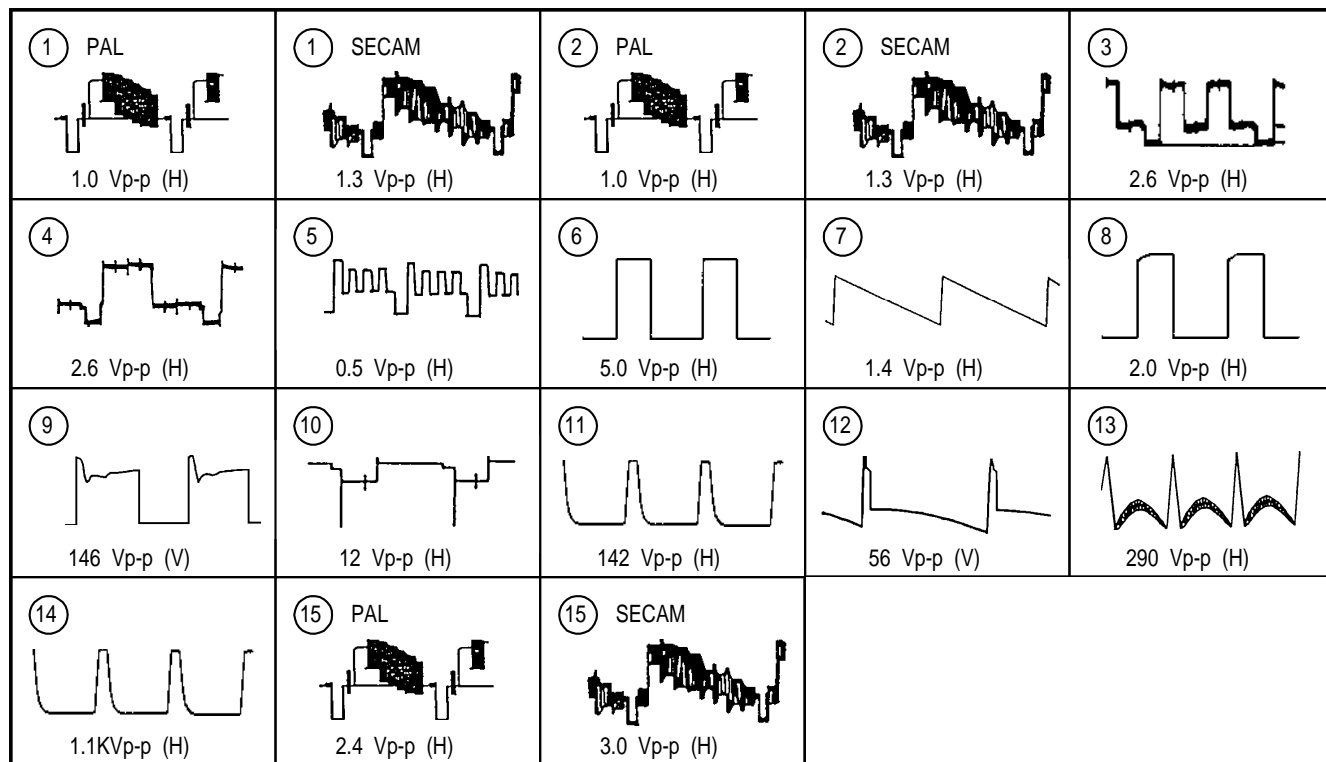


C BOARD TRANSISTOR VOLTAGE TABLE

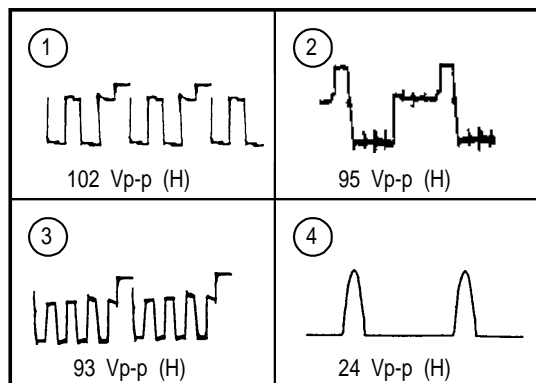
Ref No	(B) Base	(C) Collector	(E) Emitter
Q702	1.5	8.3	1.1
Q703	0.8	109.8	8.3
Q704	169.5	1.9	209.5
Q705	1.5	8.3	1.1
Q706	8.8	170.7	8.3
Q707	170.5	1.9	215.7
Q708	1.5	8.3	1.0
Q709	8.9	171.3	8.3
Q710	171.2	1.9	206.3



## WAVEFORMS A BOARD

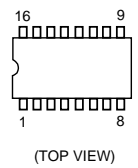


## WAVEFORMS C BOARD

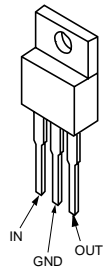


5-4 SEMICONDUCTORS

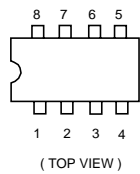
CD4052BCM



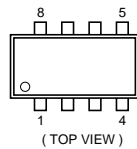
LM2940CT-9.0



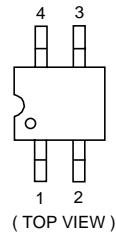
LM393N  
TDA2822M  
TEA2124



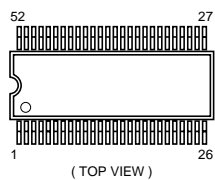
NJM4558M-TE2



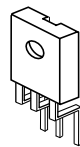
PST593C-MMP-4P



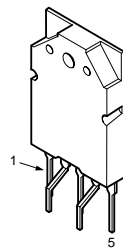
SAA5498PS/M1A/074  
SAA5498PS/M1A/075  
SAA5498PS/M1A/076



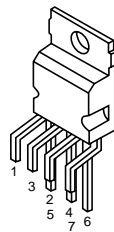
SBX1981-51



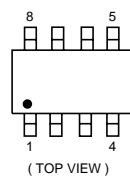
STR-F6654



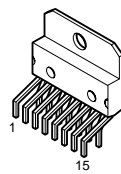
STV9379



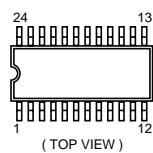
ST24W08FM6TR



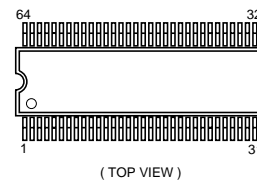
TDA7495



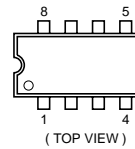
TDA9818-V1



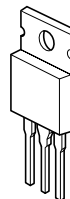
TDA9870  
TDA9875P



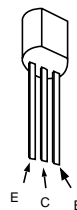
TOP209P



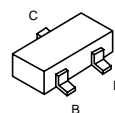
TYA7805CTV



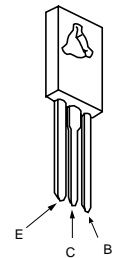
BF421-AMMO  
2SA1091-O



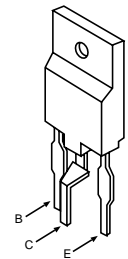
DTC114EK  
DTC114EKA-T146  
DTC144EKA-T-146R  
2SA1037K-T-146-QR  
2SC2412K-QR  
2SC2412K-T-146-R



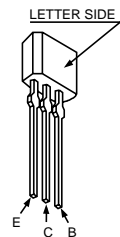
2SC688-LK



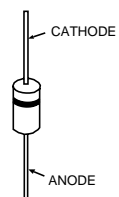
SD2539 (SONY)



2SA933AS-QRT  
2SA933AS-RT  
2SC1740S-RT

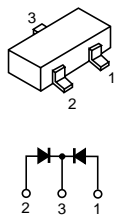


AK04-V1	GP08DPKG23
AU-01Z-V1	GP10GPKG23
DINL20-TA	GP15GPKG23
ERB44-06TP1	LSB360HL
EG-1Z-V1	RB501V-40TE-T7
EL1Z	RG1CLF-B1
ERD28-06S	RGPO2-17EL-6433
ERC06-15S	RGP15GPKG23
FMN-G12S	RGP10GPKG23
	RU-4AM-T3

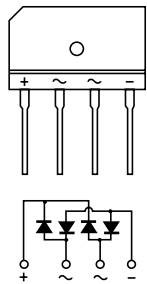


5-4 SEMICONDUCTORS

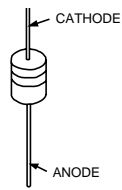
DAN202K  
DAN202K-T146



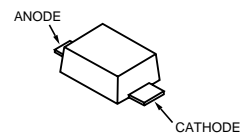
D45B60L-F



- |                |                |
|----------------|----------------|
| AK04WS         | MTZJ-T-77-33A  |
| ERC04-6SE      | P6KE200AG23    |
| MTZJ-T-77-4.7B | RD5.6ESB2      |
| MTZJ-T-77-5.6B | RN3Z-LF014-302 |
| MTZJ-T-77-12B  | 1SS119-25TD    |
| MTZJ-T-77-22B  | 1SS133T-77     |

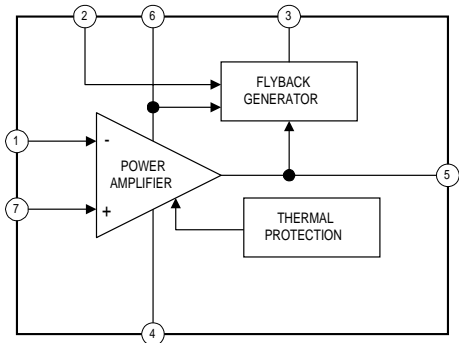


UF4005PKG23

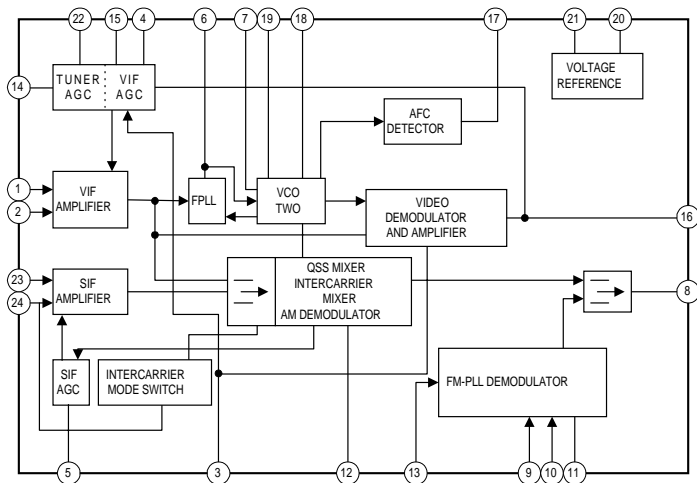


## 5-5. IC BLOCK DIAGRAMS

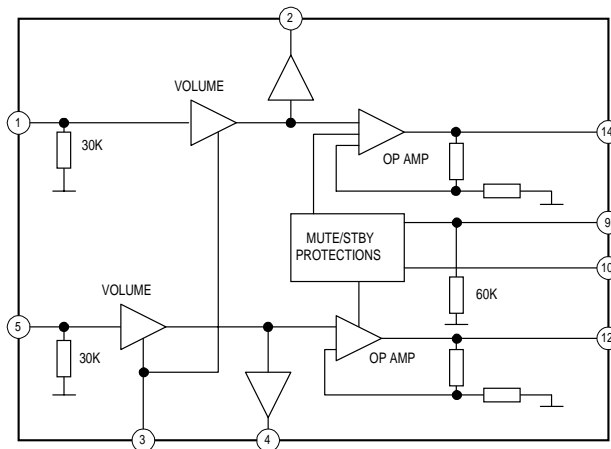
## A BOARD IC501 STV 9379



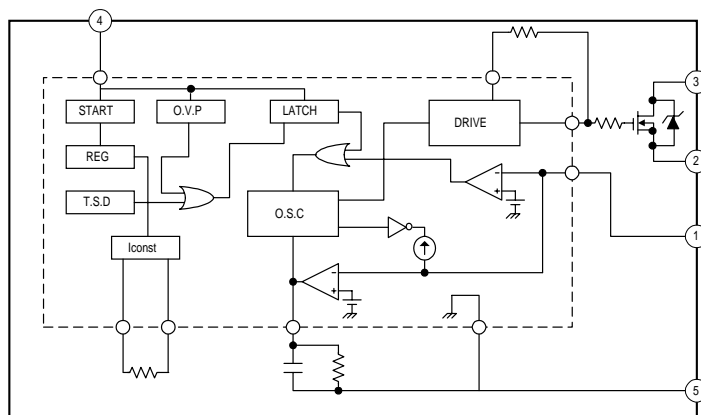
**A BOARD IC101 TDA9817/V1**



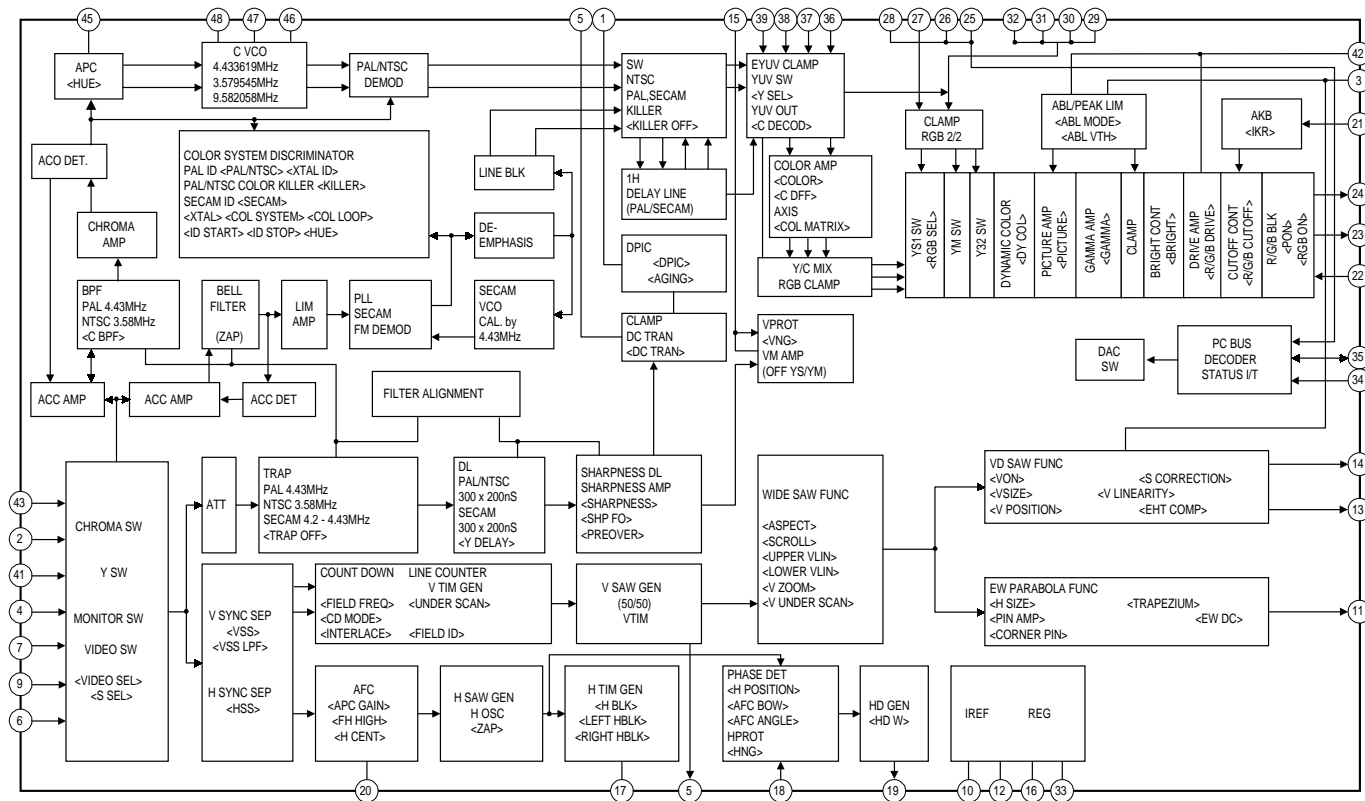
## A BOARD IC201 TDA7495



**A BOARD IC606 STR-F6654**



## A BOARD IC301 CXA2060AS





## SECTION 6 EXPLODED VIEWS

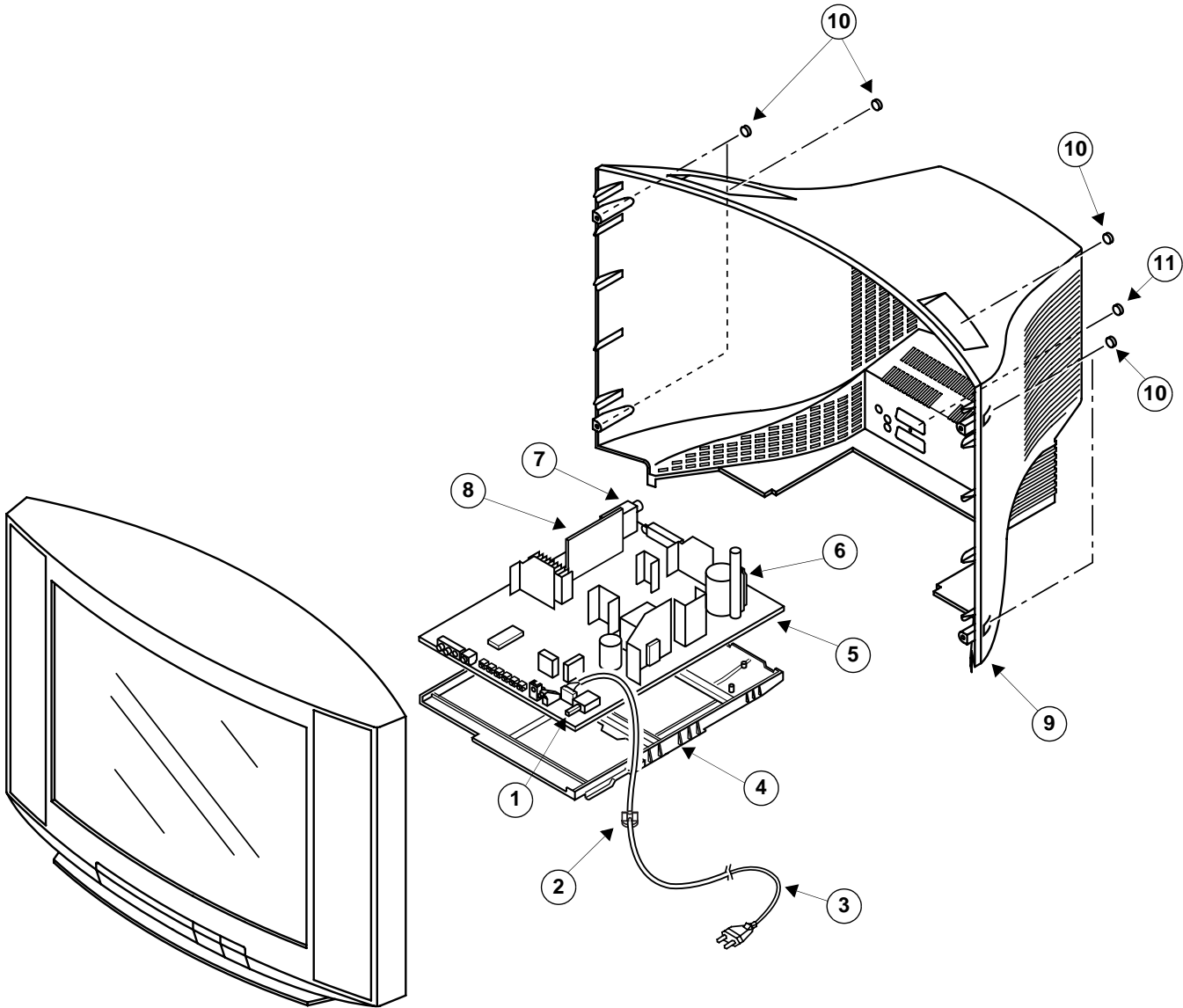
### NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked “\*” are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**Note :** Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

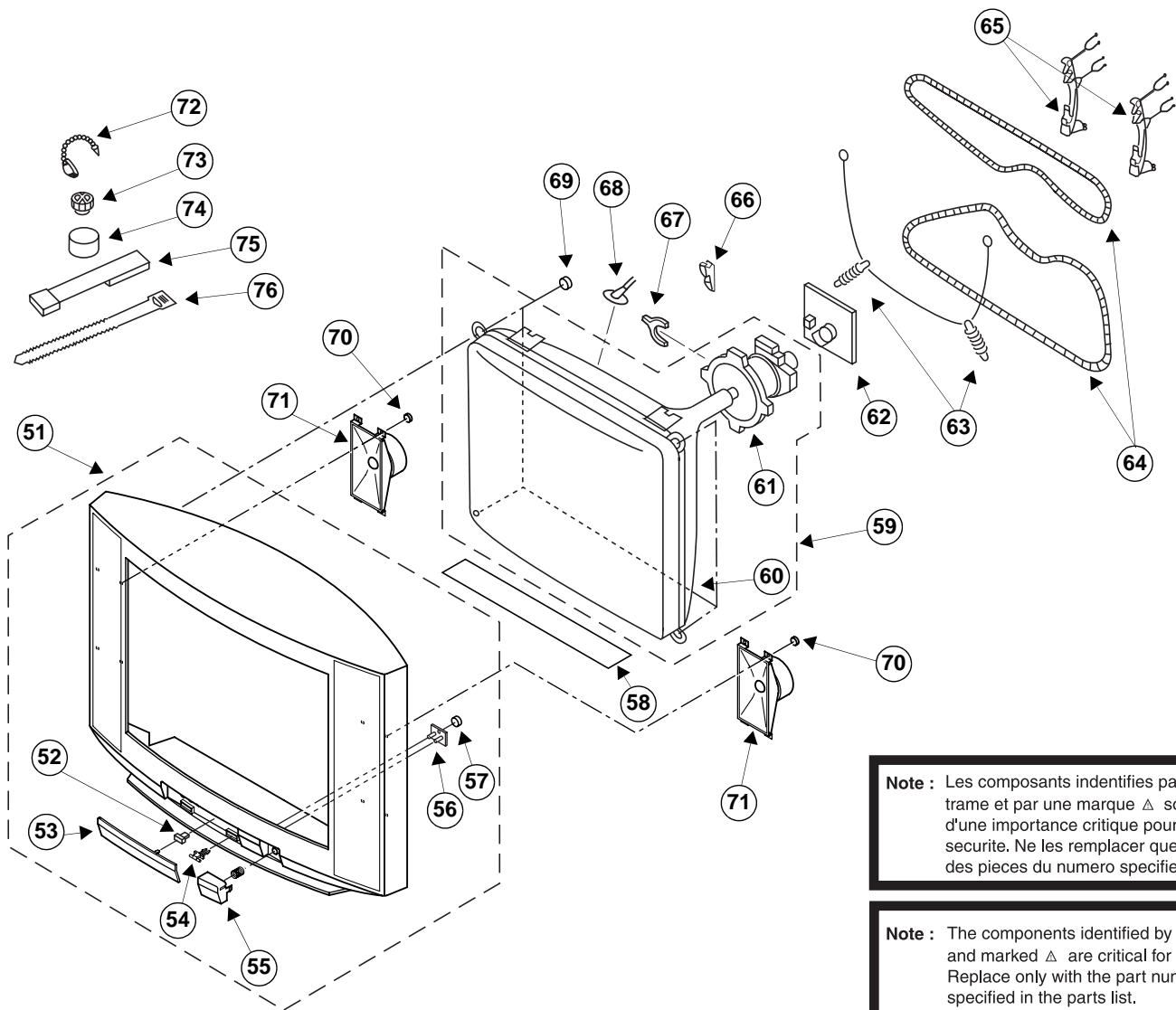
**Note :** The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

### 6-1. KV-21C5 CHASSIS



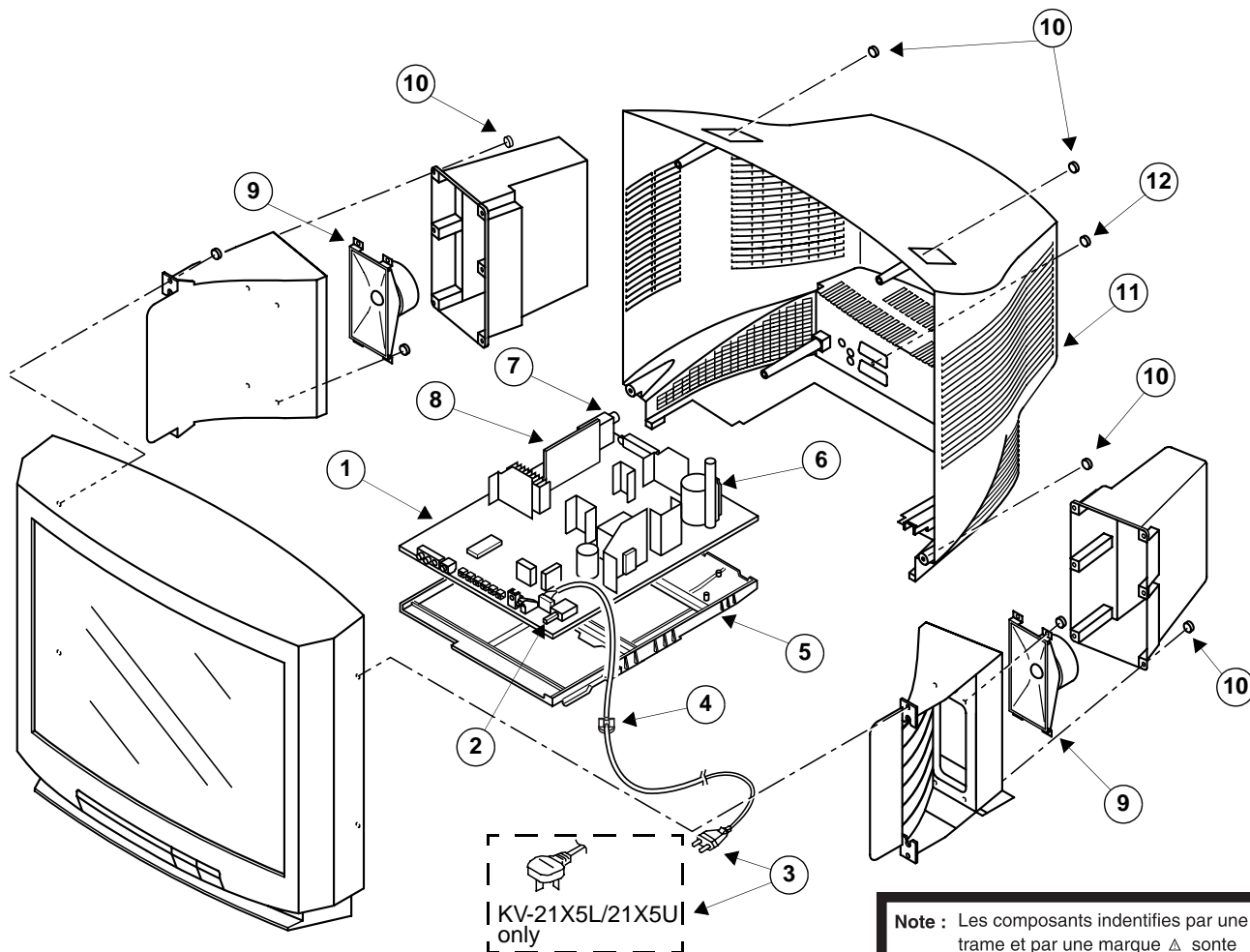
REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
1	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)		7	1-693-418-11	TUNER (TELE9-001A) (KV-21C5B)	
2	*4-202-531-01	AC CORD LOCK (SC)		8	8-598-432-00	TUNER (BTP-AC411) (KV-21C5D/21C5E/21C5K/21C5R)	
3	Δ 1-765-286-11	CORD, POWER		8	*A-1652-056-A	S1 BOARD, COMPLETE (KV-21C5B)	
4	*4-204-143-01	BRACKET, MAIN			*A-1652-053-A	S1 BOARD, COMPLETE (KV-21C5D/21C5R)	
5	*A-1632-798-A	A BOARD, COMPLETE (KV-21C5B)			*A-1652-052-A	S1 BOARD, COMPLETE (KV-21C5E/21C5K)	
	*A-1632-797-A	A BOARD, COMPLETE (KV-21C5D)		9	4-204-147-01	COVER, REAR	
	*A-1632-796-A	A BOARD, COMPLETE (KV-21C5E)		10	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	
	*A-1632-799-A	A BOARD, COMPLETE (KV-21C5K)		11	7-685-663-79	SCREW +BVTP 4X16 TYPE2 IT-3	
	*A-1632-800-A	A BOARD, COMPLETE (KV-21C5R)					
6	Δ 1-453-279-11	TRANSFORMER ASSY, FLYBACK NX-1747/U2B					

## 6-2. KV-21C5 PICTURE TUBE



REF. NO.	PART. NO	DESCRIPTION	REMARK	REF. NO.	PART. NO	DESCRIPTION	REMARK
51	X-4200-410-1	BEZNET ASSY (KV-21C5B/21C5E/21C5K)	52-57	63	4-369-318-21	SPRING, TENSION	
	X-4200-411-1	BEZNET ASSY (KV-21C5D/21C5R)		64	$\Delta$ 1-411-922-11	COIL, DEGAUSSING	
52	4-047-464-01	CATCHER, PUSH		65	4-386-622-11	BAND, DGC	
53	4-204-359-01	DOOR (PAINTED) (KV-21C5B/21C5E/21C5K)		66	3-704-495-01	SPACER, DY	
	4-204-359-11	DOOR (PAINTED) (KV-21C5D/21C5R)		67	1-452-277-00	MAGNET, BMC	
54	3-703-035-11	SHAFT, LID		68	$\Delta$ 1-540-006-22	CAP ASSY, HIGH-VOLTAGE	
55	4-204-360-01	BUTTON, POWER		69	4-365-808-01	SCREW (5), TAPPING	
56	4-204-146-01	GUIDE, LIGHT		70	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	
57	7-685-648-79	SCREW +BVTP 3X16 TYPE2 IT-3		71	1-505-924-11	SPEAKER (15X6.5CM)	
58	4-203-128-01	SHEET BLOTING		72	4-308-870-00	CLIP, LEAD WIRE	
59	$\Delta$ 8-738-787-71	ITC	60-61	73	1-452-032-00	MAGNETIC, ROTATABLE DISK; 15MM $\varnothing$	
60	$\Delta$ 8-738-784-05	PICTURE TUBE (SD-169) (A51JXH161X)		74	1-452-094-00	MAGNETIC, DISK; 10MM $\varnothing$	
61	$\Delta$ 8-451-295-45	DEFLECTION YOKE (Y21PFA2BA)		75	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
62	*A-1638-118-A	C BOARD, COMPLETE		76	3-701-007-00	BAND, BINDING	

### 6-3. KV-21X5 CHASSIS

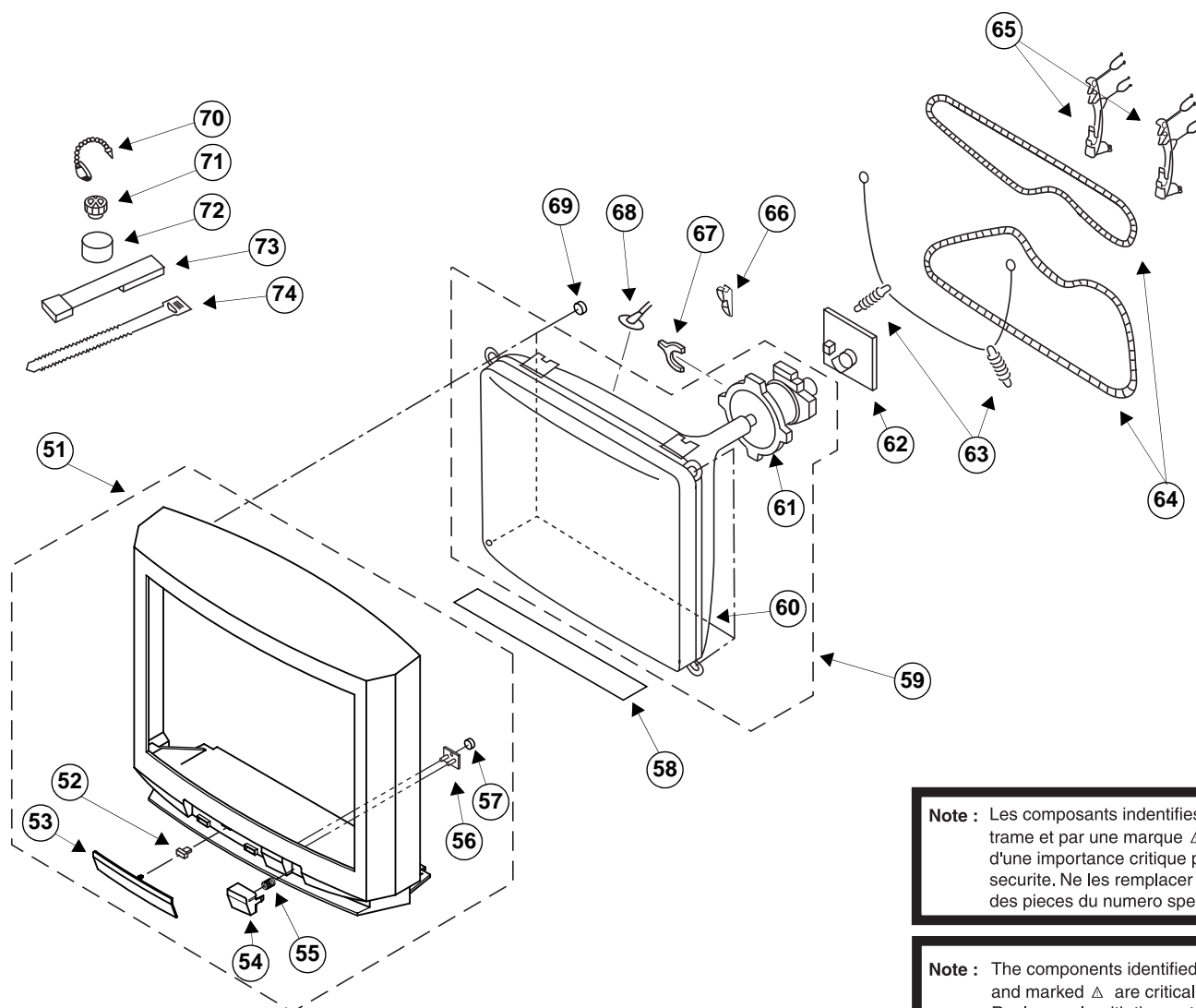


**Note :** Les composants identifiés par une trame et par une marque Δ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked Δ are critical for safety. Replace only with the part numbers specified in the parts list.

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
1	*A-1632-804-A	A BOARD, COMPLETE (KV-21X5A)		7	1-693-418-11	TUNER (TELE9-001A) (KV-21X5B)	
	*A-1632-803-A	A BOARD, COMPLETE (KV-21X5B)			8-598-432-00	TUNER (BTP-AC411) (KV-21X5A/21X5D/21X5E/21X5K/21X5L/21X5R)	
	*A-1632-802-A	A BOARD, COMPLETE (KV-21X5D)			8-598-464-01	TUNER (BTP-AU611) (KV-21X5U)	
	*A-1632-801-A	A BOARD, COMPLETE (KV-21X5E)		8	*A-1652-053-A	S1 BOARD, COMPLETE (KV-21X5A/21X5D/21X5R)	
	*A-1632-807-A	A BOARD, COMPLETE (KV-21X5K)			*A-1652-056-A	S1 BOARD, COMPLETE (KV-21X5B)	
	*A-1632-806-A	A BOARD, COMPLETE (KV-21X5L)			*A-1652-052-A	S1 BOARD, COMPLETE (KV-21X5E/21X5K/21X5L/21X5U)	
	*A-1632-808-A	A BOARD, COMPLETE (KV-21X5R)		9	4-505-924-01	SPEAKER (15X6.5CM)	
	*A-1632-805-A	A BOARD, COMPLETE (KV-21X5U)		10	7-685-663-71	SCREW +BVTP 4X16 TYPE2 IT-3	
2	Δ 1-571-433-21	SWITCH, PUSH (AC POWER)		11	4-204-167-01	COVER, REAR	
3	Δ 1-765-286-11	CORD, POWER		12	7-685-663-79	SCREW +BVTP 4X16 TYPE2 IT-3	
4	*4-202-531-01	AC CORD LOCK (SC)					
5	*4-204-143-01	BRACKET, MAIN					
6	Δ 1-453-279-11	TRANSFORMER ASSY, FLYBACK NX-1747/U2B					

## 6-4. KV-21X5 PICTURE TUBE



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
51	X-4200-402-2	BEZNET ASSY (KV-21X5A/21X5D/21X5R)	52-57	62	*A-1638-118-A	C BOARD, COMPLETE	
	X-4200-402-1	BEZNET ASSY (KV-21X5B/21X5E/21X5K/21X5L/21X5U)		63	4-369-318-21	SPRING, TENSION	
52	4-047-464-01	CATCHER, PUSH		64	$\Delta$ 1-411-922-11	COIL, DEGAUSSING	
53	4-204-170-11	DOOR (KV-21X5A/21X5D/21X5R)		65	4-386-622-11	BAND, DGC	
	4-204-170-01	DOOR (KV-21X5B/21X5E/21X5K/21X5L/21X5U)		66	3-704-495-01	SPACER, DY	
54	4-204-171-01	BUTTON, POWER		67	1-452-277-00	MAGNET, BMC	
55	3-202-964-01	SPRING		68	$\Delta$ 1-540-006-22	CAP ASSY, HIGH-VOLTAGE	
56	4-204-172-01	GUIDE, LIGHT		69	4-365-808-01	SCREW (5), TAPPING	
57	7-685-648-79	SCREW +BVTP 3X16 TYPE2 IT-3		70	4-308-870-00	CLIP, LEAD WIRE	
58	4-203-128-01	SHEET BLOTING		71	1-452-094-00	MAGNETIC, ROTATABLE DISK; 15MM $\varnothing$	
59	$\Delta$ 8-738-787-71	ITC	60-61	72	1-452-032-00	MAGNETIC, DISK; 10MM $\varnothing$	
60	$\Delta$ 8-738-784-05	PICTURE TUBE (SD-169) (A51JXH61X)		73	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
61	$\Delta$ 8-451-295-45	DEFLECTION YOKE (Y21PFA2BA)		74	3-701-007-00	BAND, BINDING	

# SECTION 7 ELECTRICAL PARTS LIST

When indicating parts by reference number, please include the board name.

CAPACITORS                      COILS  
MF : mF, PF : mmF              MMH : mH , uH

- Items marked “ \* “ are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- RESISTORS
- All resistors are in ohms.
- F : nonflammable.

**Note :** Les composants identifiés par une trame et par une marque  $\Delta$  sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces du numéro spécifié.

**Note :** The components identified by shading and marked  $\Delta$  are critical for safety. Replace only with the part numbers specified in the parts list.

**A**

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
	*A-1632-798-A	A BOARD, COMPLETE *****	(KV-21C5B)	C018	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
	*A-1632-797-A	A BOARD, COMPLETE *****	(KV-21C5D)	C019	1-163-038-00	CERAMIC CHIP 0.1MF	25V
	*A-1632-796-A	A BOARD, COMPLETE *****	(KV-21C5E)	C022	1-126-935-11	ELECT 470MF	20% 16V
	*A-1632-799-A	A BOARD, COMPLETE *****	(KV-21C5K)	C024	1-104-665-11	ELECT 100MF	20% 25V
	*A-1632-800-A	A BOARD, COMPLETE *****	(KV-21C5R)	C025	1-130-495-00	FILM 0.1MF	5% 50V
	*A-1632-804-A	A BOARD, COMPLETE *****	(KV-21X5A)	C029	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
	*A-1632-803-A	A BOARD, COMPLETE *****	(KV-21X5B)	C030	1-104-665-11	ELECT 100MF	20% 25V
	*A-1632-802-A	A BOARD, COMPLETE *****	(KV-21X5D)	C031	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
	*A-1632-801-A	A BOARD, COMPLETE *****	(KV-21X5E)	C032	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V
	*A-1632-807-A	A BOARD, COMPLETE *****	(KV-21X5K)	C033	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
	*A-1632-806-A	A BOARD, COMPLETE *****	(KV-21X5L)	C035	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
	*A-1632-808-A	A BOARD, COMPLETE *****	(KV-21X5R)	C036	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
	*A-1632-805-A	A BOARD, COMPLETE *****	(KV-21X5U)	C037	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
	4-382-854-11	SCREW (M3X10), P, SW (+)		C038	1-126-964-11	ELECT 10MF	20% 50V
	< CAPACITOR >			C039	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C004	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C040	1-163-189-00	CERAMIC CHIP 220PF	5% 50V
C005	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C041	1-163-205-00	CERAMIC CHIP 0.001MF	10% 50V
C006	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C042	1-126-933-11	ELECT 100MF	20% 16V
C007	1-126-935-11	ELECT 470MF	20% 16V	C043	1-126-935-11	ELECT 470MF	20% 16V
C008	1-126-964-11	ELECT 10MF	20% 50V	C100	1-163-038-00	CERAMIC CHIP 0.1MF	25V (KV-21C5B/21X5B)
C009	1-126-965-11	ELECT 22MF	20% 50V	C103	1-104-665-11	ELECT 100MF	20% 25V
C011	1-126-965-11	ELECT 22MF	20% 50V	C105	1-126-965-11	ELECT 22MF	20% 50V
C012	1-126-959-11	ELECT 0.47MF	20% 50V	C108	1-163-465-11	CERAMIC CHIP 9PF	0.25PF 50V
C013	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C109	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C016	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C110	1-163-038-00	CERAMIC CHIP 0.1MF	25V
				C111	1-163-059-00	CERAMIC CHIP 0.01MF	50V (KV-21C5B/21X5B)
					1-216-296-00	SHORT 0	(KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/ 21X5L/21X5R/21X5U)
				C112	1-163-031-11	CERAMIC CHIP 0.01MF	50V
				C115	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V
				C116	1-126-961-11	ELECT 2.2MF	20% 50V
				C117	1-126-961-11	ELECT 2.2MF	20% 50V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C118	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C319	1-126-964-11	ELECT 10MF	20% 50V
C120	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C321	1-126-963-11	ELECT 4.7MF	20% 50V
C121	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C322	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
			(KV-21C5B/21X5B)	C328	1-104-664-11	ELECT 47MF	20% 25V
C129	1-104-660-91	ELECT 47MF	20% 16V	C329	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C133	1-162-638-11	CERAMIC CHIP 1MF	16V	C330	1-163-038-00	CERAMIC CHIP 0.1MF	25V
			(KV-21C5B/21X5B)	C331	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C134	1-128-551-11	ELECT 22MF	20% 25V	C332	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C135	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C333	1-126-960-11	ELECT 1MF	20% 50V
C138	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C334	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C139	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C335	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C140	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C336	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C143	1-104-664-11	ELECT 47MF	20% 25V	C337	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C144	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C338	1-126-967-11	ELECT 47MF	20% 50V
			(KV-21C5B/21X5B)	C339	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C146	1-163-031-11	CERAMIC CHIP 0.01MF	50V	C350	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C160	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C351	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C201	1-104-666-11	ELECT 220MF	20% 25V	C401	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C203	1-126-942-61	ELECT 1000MF	20% 25V	C402	1-126-960-11	ELECT 1MF	20% 50V
C204	1-126-942-61	ELECT 1000MF	20% 25V	C403	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C205	1-163-033-91	CERAMIC CHIP 0.022MF	50V	C405	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C206	1-126-960-11	ELECT 1MF	20% 50V	C406	1-126-960-11	ELECT 1MF	20% 50V
C207	1-126-972-11	ELECT 1000MF	20% 50V	C407	1-126-964-11	ELECT 10MF	20% 50V
C208	1-126-960-11	ELECT 1MF	20% 50V	C408	1-126-964-11	ELECT 10MF	20% 50V
C209	1-163-033-91	CERAMIC CHIP 0.022MF	50V	C410	1-126-964-11	ELECT 10MF	20% 50V
C210	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C413	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C211	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C414	1-126-960-11	ELECT 1MF	20% 50V
C213	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C415	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C214	1-163-019-00	CERAMIC CHIP 0.0068MF	10% 50V	C416	1-126-964-11	ELECT 10MF	20% 50V
C215	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C417	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C218	1-102-074-00	CERAMIC CHIP 0.001MF	5% 50V	C418	1-126-960-11	ELECT 1MF	20% 50V
			(KV-21C5B/21X5B)	C422	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C219	1-102-074-00	CERAMIC 0.001MF	10% 50V	C423	1-126-964-11	ELECT 10MF	20% 50V
			(KV-21C5B/21X5B)	C426	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C301	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C427	1-535-303-00	LEAD, JUMPER (5.0MM)	
C302	1-126-967-11	ELECT 47MF	20% 16V	C428	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C303	1-101-004-00	CERAMIC 0.01MF	50V	C429	1-535-303-00	LEAD, JUMPER (5.0MM)	
C304	1-126-964-11	ELECT 10MF	20% 50V	C430	1-104-664-11	ELECT 47MF	20% 25V
C305	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	C432	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C307	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C433	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
C308	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C434	1-126-935-11	ELECT 470MF	20% 16V
C309	1-126-963-11	ELECT 4.7MF	20% 50V	C435	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C312	1-163-099-00	CERAMIC CHIP 18PF	5% 50V	C436	1-163-055-00	CERAMIC CHIP 0.0047MF	10% 50V
C313	1-163-099-00	CERAMIC CHIP 18PF	5% 50V	C437	1-124-903-11	ELECT 1MF	20% 50V
C314	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C438	1-124-903-11	ELECT 1MF	20% 50V
C316	1-163-259-91	CERAMIC CHIP 220PF	5% 50V	C443	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C317	1-136-169-00	FILM 0.22MF	5% 50V	C444	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
C445	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C606	1-125-318-00	ELECT(BLOCK) 220MF	20% 400V (KV-21C5B/21C5D/21C5E) (KV-21X5A/21X5B/21X5D/ 21X5E/21X5L/21X5U)
C501	1-126-968-11	ELECT 100MF	20% 50V				
C502	1-163-038-00	CERAMIC CHIP 0.1MF	25V				
C503	1-126-968-11	ELECT 100MF	20% 50V				
C504	1-106-220-00	MYLAR 0.1MF	10% 100V		1-117-751-11	ELECT(BLOCK) 220MF	20% 450V (KV-21C5K/21C5R) (KV-21X5K/21X5R)
C505	1-136-173-00	FILM 0.47MF	5% 50V	C607	1-161-754-00	CERAMIC 0.001MF	10% 2KV
C506	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C609	1-107-915-51	ELECT 2200MF	20% 50V
C507	1-126-933-11	ELECT 100MF	20% 16V	C610	1-104-665-11	ELECT 100MF	20% 25V
C508	1-126-960-11	ELECT 1MF	20% 50V	C611	1-165-127-11	CERAMIC 470PF	10% 500V
C509	1-107-364-11	MYLAR 0.01MF	10% 200V	C612	$\Delta$ 1-161-964-51	CERAMIC 0.0047MF	250V
C510	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	C613	$\Delta$ 1-161-964-51	CERAMIC 0.0047MF	250V
C513	1-107-662-11	ELECT 22MF	20% 250V	C614	$\Delta$ 1-161-964-51	CERAMIC 0.0047MF	250V
C515	1-104-666-11	ELECT 220MF	20% 25V	C615	1-130-202-00	FILM 0.022MF	10% 400V
C517	1-104-666-11	ELECT 220MF	20% 25V	C618	1-107-890-11	ELECT 2200MF	20% 25V
C518	1-106-375-12	MYLAR 0.022MF	99% 200V	C621	1-163-005-11	CERAMIC CHIP 470PF	10% 50V
C519	1-163-275-11	CERAMIC CHIP 0.001MF	5% 50V	C622	$\Delta$ 1-161-964-51	CERAMIC 0.0047MF	250V
C520	1-163-038-00	CERAMIC CHIP 0.1MF	25V	C624	1-104-665-11	ELECT 100MF	20% 25V
C531	1-126-964-11	ELECT 10MF	20% 50V	C625	1-104-665-11	ELECT 100MF	20% 25V
C535	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	C628	1-124-347-00	ELECT 100MF	20% 160V
C536	1-107-804-11	FILM 0.68MF	5% 200V	C629	1-136-189-00	FILM 0.1MF	10% 250V
C537	1-137-417-11	MYLAR 0.0047MF	10% 200V	C630	1-165-127-11	CERAMIC 470PF	10% 500V
C538	1-165-319-11	CERAMIC CHIP 0.1MF	50V	C633	1-104-332-11	CERAMIC 470PF	10% 2KV
C539	1-107-650-11	ELECT 3.3MF	20% 250V	C635	1-107-675-11	ELECT 1MF	20% 160V
C541	1-106-383-00	MYLAR 0.047MF	10% 200V	C638	1-107-670-11	ELECT 10MF	20% 400V (KV-21C5B/21C5D/21C5E/21C5K) (KV-21X5A/21X5B/21X5D/21X5E/ 21X5K/21X5L/21X5U)
C542	1-162-116-00	CERAMIC 680PF	10% 2KV		1-107-679-91	ELECT 10MF	20% 450V (KV-21C5R/21X5R)
C543	1-162-134-11	CERAMIC 470PF	10% 2KV	C639	1-104-665-11	ELECT 100MF	20% 25V
C545	1-126-960-11	ELECT 1MF	20% 50V	C640	1-104-664-11	ELECT 47MF	20% 25V
C546	1-129-746-00	FILM 0.039MF	5% 400V	C641	1-104-665-11	ELECT 100MF	20% 25V
C547	1-115-522-11	FILM 1MF	5% 200V	C642	1-104-665-11	ELECT 100MF	20% 25V
C548	1-162-134-11	CERAMIC 470PF	10% 2KV	< FILTER >			
C550	1-107-638-11	ELECT 33MF	20% 160V	CF101	1-404-134-00	TRAP, CERAMIC (5.5MHZ)	
C552	1-102-212-00	CERAMIC 820PF	10% 500V	CF105	1-760-154-11	TRAP, CERAMIC (KV-21C5B/21X5B/21X5L/21X5U)	
C553	1-137-417-11	MYLAR 0.0047MF	10% 200V	SWF101	1-579-273-11	FILTER, SURFACE WAVE (KV-21C5B/21X5B/21X5L/21X5U)	
C555	1-117-644-11	FILM 10000PF	3% 1.2KV		1-767-874-11	FILTER, SURFACE WAVE (KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/ 21X5R)	
C571	1-123-024-21	ELECT 33MF	160V	SWF102	1-767-873-11	FILTER, SURFACE WAVE	
C572	1-128-526-11	ELECT 100MF	20% 25V	SWF103	1-767-083-11	FILTER, SURFACE WAVE (KV-21C5B/21X5B)	
C580	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				
C582	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V				
C584	1-126-963-11	ELECT 4.7MF	20% 50V				
C601	$\Delta$ 1-107-563-11	FILM 0.1MF	20% 300V				
C602	$\Delta$ 1-107-563-11	FILM 0.1MF	20% 300V				
C603	$\Delta$ 1-117-700-51	CERAMIC 0.0022MF	99% 250V				
C604	$\Delta$ 1-117-700-51	CERAMIC 0.0022MF	99% 250V				
C605	1-104-652-11	ELECT 470MF	20% 10V				



The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

A

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< CONNECTOR >				D410	8-719-109-89	DIODE RD5.6ESB2	
CN001	*1-564-508-11	PLUG, CONNECTOR 6P		D414	8-719-109-97	DIODE RD6.8ESB2	
CN101	1-766-922-11	CONNECTOR, BOARD TO BOARD 18P		D415	8-719-929-15	DIODE HZS9.1NB2	
CN201	*1-564-507-11	PLUG, CONNECTOR 4P		D417	8-719-929-15	DIODE HZS9.1NB2	
CN501	*1-580-798-11	CONNECTOR PIN (DY)		D418	8-719-929-15	DIODE HZS9.1NB2	
CN502	*1-564-508-51	PIN, CONNECTOR 5P		D419	8-719-929-15	DIODE HZS9.1NB2	
CN504	*1-564-509-11	PLUG, CONNECTOR 6P		D420	8-719-109-97	DIODE RD6.8ES-B2	
CN506	1-695-915-11	TAB (CONTACT)		D422	8-719-109-97	DIODE RD6.8ES-B2	
CN601	*1-580-843-11	PIN, CONNECTOR (POWER)		D423	8-719-109-97	DIODE RD6.8ES-B2	
CN602	$\Delta$ 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		D424	8-719-929-15	DIODE HZS9.1NB2	
CN603	$\Delta$ 1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		D427	8-719-109-97	DIODE RD6.8ES-B2	
< DIODE >				D430	8-719-109-97	DIODE RD6.8ES-B2	
D001	8-719-109-89	DIODE RD5.6ESB2		D501	8-719-908-03	DIODE GP08D	
D002	8-719-109-89	DIODE RD5.6ESB2		D502	8-719-924-13	DIODE MTZJ-T-77-22B	
D003	8-719-057-56	DIODE LS5360HL		D512	8-719-908-03	DIODE GP08D	
D004	8-719-109-89	DIODE RD5.6ESB2		D513	8-719-908-03	DIODE GP08D	
D005	8-719-109-89	DIODE RD5.6ESB2		D514	8-719-908-03	DIODE GP08D	
D007	8-719-109-89	DIODE RD5.6ESB2		D534	8-719-908-03	DIODE GP08D	
D008	8-719-991-33	DIODE 1SS133T-77		D536	8-719-945-80	DIODE ERC06-15S	
D009	8-719-109-89	DIODE RD5.6ESB2		D539	8-719-928-08	DIODE ERD28-08S	
D010	8-719-109-89	DIODE RD5.6ESB2		D541	1-535-303-00	LEAD, JUMPER (5.0MM)	
D011	8-719-109-89	DIODE RD5.6ESB2		D571	8-719-911-19	DIODE 1SS119-25	
D012	8-719-914-43	DIODE DAN202K		D573	8-719-921-40	DIODE MTZJ-4.7C	
D014	8-719-058-24	DIODE RB501V-40TE-17		D601	8-719-510-53	DIODE D4SB60L	
D015	8-719-914-43	DIODE DAN202K		D602	8-719-046-74	DIODE AU-01Z-V1	
D017	8-719-109-89	DIODE RD5.6ESB2		D603	8-719-046-74	DIODE AU-01Z-V1	
D018	8-719-991-33	DIODE 1SS133T-77		D605	8-719-312-10	DIODE RU4AM-T3	
D023	8-719-109-89	DIODE RD5.6ESB2		D608	8-719-067-88	DIODE RG1CLF-B1	
D101	8-719-982-24	DIODE MTZJ-33A		D610	8-719-067-78	DIODE RN3Z-LF014-302	
D104	8-719-914-43	DIODE DAN202K	(KV-21C5B/21X5B)	D613	8-719-911-19	DIODE 1SS119-25	
D201	8-719-929-15	DIODE HZS9.1NB2		D614	8-719-058-38	DIODE FMN-G12S	
D202	8-719-914-43	DIODE DAN202K		D619	8-719-043-76	DIODE AK04V0	
D204	8-719-109-89	DIODE RD5.6ESB2		D621	8-719-068-00	DIODE ERC04-06SE	
D205	8-719-109-89	DIODE RD5.6ESB2		D626	8-719-068-00	DIODE ERC04-06SE	
D206	8-719-109-89	DIODE RD5.6ESB2		D627	8-719-510-64	DIODE S2LA20F	
D306	8-719-109-89	DIODE RD5.6ESB2		D628	8-719-059-23	DIODE P6KE200AG23	
D307	8-719-109-89	DIODE RD5.6ESB2		D629	8-719-979-64	DIODE UF4005PKG23	
D308	8-719-109-72	DIODE RD3.9ES-B2		D631	8-719-110-31	DIODE RD12ES-B2	
D320	8-719-929-15	DIODE HZS9.1NB2		D632	8-719-510-64	DIODE S2LA20F	
D402	8-719-109-89	DIODE RD5.6ESB2		D633	8-719-109-89	DIODE RD5.6ESB2	
D405	8-719-109-89	DIODE RD5.6ESB2		< FUSE >			
D406	8-719-109-97	DIODE RD6.8ESB2		F601	$\Delta$ 1-576-232-21	FUSE (H.B.C.) 5AMP 250V	
D407	8-719-109-97	DIODE RD6.8ESB2			$\Delta$ *1-533-725-11	HOLDER, FUSE (F601)	
D408	8-719-929-15	DIODE HZS9.1NB2					



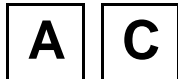
REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
< FERRITE BEAD >				< COIL >			
FB001	1-412-911-11	FERRITE	0UH	L001	1-408-603-31	INDUCTOR	10UH
FB002	1-412-911-11	FERRITE	0UH	L102	1-408-600-31	INDUCTOR	4.7UH
FB601	1-412-911-11	FERRITE	0UH	L103	1-403-686-11	COIL	
FB602	1-412-911-11	FERRITE	0UH	L104	1-535-303-00	LEAD, JUMPER (5.0MM)	
FB605	1-410-397-21	FERRITE	1.1UH	L106	1-408-611-31	INDUCTOR	47UH
FB608	1-412-911-11	FERRITE	0UH	L108	1-410-985-11	INDUCTOR CHIP	0.22UH (KV-21C5B/21X5B)
FB609	1-410-396-41	FERRITE	0.45UH	L109	1-410-789-11	INDUCTOR	0.47UH (KV-21C5B/21X5B)
FB610	1-410-397-21	FERRITE	1.1UH	L201	1-408-591-11	INDUCTOR	1UH
FB611	1-410-397-21	FERRITE	1.1UH	L202	1-408-591-11	INDUCTOR	1UH
FB612	1-535-303-00	LEAD, JUMPER (5.0MM)		L203	1-406-979-11	INDUCTOR	0UH
< IC >				L204	1-408-603-31	INDUCTOR	10UH
IC001	8-759-542-66	IC SAA5497PS/M1A/074	(KV-21C5B/21C5E/21C5K)	L205	1-408-603-31	INDUCTOR	10UH
	8-759-466-49		(KV-21X5B/21X5E/21X5K/21X5L/21X5U)	L301	1-216-295-00	SHORT	0
	8-759-542-68	IC SAA5497PS/M1A/076	(KV-21C5D/21X5A/21X5D)	L302	1-408-611-31	INDUCTOR	47UH
	8-759-542-56	IC SAA5497PS/M1A/075	(KV-21C5R/21X5R)	L303	1-408-609-41	INDUCTOR	33UH
IC002	8-742-014-11	HYB IC SBX1981-51		L401	1-408-611-31	INDUCTOR	47UH
IC003	8-759-468-56	IC MN1381-T(TA)		L402	1-408-611-31	INDUCTOR	47UH
IC004	8-759-432-33	IC ST24W08FM6TR		L403	1-535-303-00	LEAD, JUMPER (5.0MM)	
IC005	8-759-516-41	IC CD4052BCM		L404	1-535-303-00	LEAD, JUMPER (5.0MM)	
IC101	8-759-466-47	IC TDA9818/V1	(KV-21C5B/21X5B)	L405	1-216-295-00	SHORT	0
	8-759-466-79	IC TDA9817/V1	(KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/21X5L/21X5R/21X5U)	L406	1-216-295-00	SHORT	0
IC201	8-759-442-74	IC TDA7495		L501	1-408-611-31	INDUCTOR	47UH
IC301	8-752-088-38	IC CXA2060BS		L502	1-412-531-31	INDUCTOR	33UH
IC501	8-759-192-71	IC STV9379		L503	1-412-521-31	INDUCTOR	4.7UH
IC531	8-759-450-95	IC LM393N		L532	1-412-553-11	INDUCTOR	3.3MMH
IC603	8-749-920-61	IC SE-135N		L535	1-459-111-00	INDUCTOR	0UH
IC604	8-759-524-82	IC TYA7805CTV		L537	1-459-652-12	HLC	
IC605	8-759-267-25	IC LM2940CT-9.0		L538	1-459-390-00	INDUCTOR	0UH
IC606	8-749-013-75	IC STR-F6654		L540	1-535-303-00	LEAD, JUMPER (5.0MM)	
IC608	8-759-524-82	IC TYA7805CTV		L571	1-412-533-21	INDUCTOR	47UH
IC609	8-759-468-89	IC TOP209P		L602	1-414-187-11	INDUCTOR	47UH
< PHOTO COUPLER >				< TRANSISTOR >			
PH601 $\Delta$	8-749-010-64	PHOTO COUPLER PC123F2		Q004	8-729-216-22	TRANSISTOR 2SA1162-G	
< SOCKET >				Q005	1-801-806-11	TRANSISTOR DTC144EKA	
J201	1-764-606-11	JACK		Q006	1-801-806-11	TRANSISTOR DTC144EKA	
J401	1-766-296-11	CONNECTOR, DUAL SCART		Q007	8-729-422-27	TRANSISTOR 2SD601A-Q	
J402	1-784-967-11	JACK BLOCK, PIN 3P		Q008	8-729-422-27	TRANSISTOR 2SD601A-Q	
J404	1-784-632-11	JACK, PIN 2P		Q009	8-729-422-27	TRANSISTOR 2SD601A-Q	
				Q010	8-729-422-27	TRANSISTOR 2SD601A-Q	
				Q011	1-801-806-11	TRANSISTOR DTC144EKA	
				Q012	8-729-422-27	TRANSISTOR 2SD601A-Q	
				Q014	8-729-422-27	TRANSISTOR 2SD601A-Q	
				Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
				Q107	8-729-022-54	TRANSISTOR 2SC3779C,D-AA	(KV-21C5B/21X5B)

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q109	1-801-806-11	TRANSISTOR DTC144EKA	(KV-21C5B/21X5B)	R023	1-216-295-00	SHORT	0
Q110	1-801-806-11	TRANSISTOR DTC144EKA	(KV-21C5B/21X5B)	R029	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q202	8-729-422-27	TRANSISTOR 2SD601A-Q		R032	1-216-089-00	RES,CHIP	47K 5% 1/10W
Q401	8-729-216-22	TRANSISTOR 2SA1162-G		R034	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
Q405	8-729-120-28	TRANSISTOR 2SC1623-L5L6		R035	1-216-049-00	RES,CHIP	1K 5% 1/10W
Q408	8-729-422-27	TRANSISTOR 2SD601A-Q		R036	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
Q501	8-729-422-27	TRANSISTOR 2SD601A-Q		R038	1-216-073-00	RES,CHIP	10K 5% 1/10W
Q532	8-729-038-83	TRANSISTOR 2SK2251-01-F19		R039	1-216-089-00	RES,CHIP	47K 5% 1/10W
Q533	8-729-041-25	TRANSISTOR S2055N-16E305A		R046	1-216-085-00	RES,CHIP	33K 5% 1/10W
Q535	8-729-119-80	TRANSISTOR 2SC2688-LK		R047	1-216-067-00	RES,CHIP	5.6K 5% 1/10W
Q571	8-729-105-08	TRANSISTOR 2SA1330-06		R048	1-216-081-00	RES,CHIP	22K 5% 1/10W
Q574	8-729-422-27	TRANSISTOR 2SD601A-Q		R049	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
Q575	1-801-806-11	TRANSISTOR DTC144EKA		R050	1-216-041-00	RES,CHIP	470 5% 1/10W
Q576	8-729-422-27	TRANSISTOR 2SD601A-Q		R051	1-216-049-00	RES,CHIP	1K 5% 1/10W
Q601	8-729-216-22	TRANSISTOR 2SA1162-G		R053	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
< RESISTOR >				R054	1-216-041-00	RES,CHIP	470 5% 1/10W
JR012	1-216-296-00	SHORT	0 (KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/ 21X5L/21X5R/21X5U)	R055	1-216-081-00	RES,CHIP	22K 5% 1/10W
JR023	1-216-296-00	SHORT	0	R056	1-216-105-00	RES,CHIP	220K 5% 1/10W
JR031	1-216-295-00	SHORT	0	R057	1-216-075-00	RES,CHIP	12K 5% 1/10W
JR403	1-216-073-00	RES,CHIP	10K 5% 1/10W	R058	1-216-063-91	RES,CHIP	3.9K 5% 1/10W
JR409	1-216-295-00	SHORT	0	R059	1-216-089-00	RES,CHIP	47K 5% 1/10W
JR411	1-216-295-00	SHORT	0	R060	1-216-174-00	RES,CHIP	100 5% 1/8W
JR412	1-216-295-71	CONDUCTOR CHIP		R061	1-216-174-00	RES,CHIP	100 5% 1/8W
JR610	1-216-296-00	SHORT	0	R062	1-216-033-00	RES,CHIP	220 5% 1/10W
JR616	1-216-296-00	SHORT	0	R063	1-216-065-00	RES,CHIP	4.7K 5% 1/10W (KV-21C5B/21X5B)
JR617	1-216-296-00	SHORT	0	R064	1-216-065-00	RES,CHIP	4.7K 5% 1/10W (KV-21C5B/21X5B)
JW220	8-719-109-89	DIODE RD5.6ESB2		R065	1-216-025-00	RES,CHIP	100 5% 1/10W
R001	1-216-025-00	RES,CHIP	100 5% 1/10W	R066	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
R002	1-216-025-00	RES,CHIP	100 5% 1/10W	R067	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
R003	1-216-065-00	RES,CHIP	4.7K 5% 1/10W	R068	1-216-073-00	RES,CHIP	10K 5% 1/10W
R004	1-216-065-00	RES,CHIP	4.7K 5% 1/10W	R069	1-216-049-00	RES,CHIP	1K 5% 1/10W
R005	1-216-065-00	RES,CHIP	4.7K 5% 1/10W	R070	1-216-081-00	RES,CHIP	22K 5% 1/10W
R007	1-216-065-00	RES,CHIP	4.7K 5% 1/10W	R071	1-216-214-00	RES,CHIP	4.7K 5% 1/8W
R008	1-216-025-00	RES,CHIP	100 5% 1/10W	R072	1-216-097-00	RES,CHIP	100K 5% 1/10W
R009	1-216-025-00	RES,CHIP	100 5% 1/10W	R073	1-216-097-00	RES,CHIP	100K 5% 1/10W
R010	1-216-025-00	RES,CHIP	100 5% 1/10W	R075	1-216-069-00	RES,CHIP	6.8K 5% 1/10W
R011	1-216-025-00	RES,CHIP	100 5% 1/10W	R077	1-216-083-00	RES,CHIP	27K 5% 1/10W
R012	1-247-807-31	CARBON	100 5% 1/4W	R082	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
R013	1-216-214-00	RES,CHIP	4.7K 5% 1/8W	R083	1-216-031-00	RES,CHIP	180 5% 1/10W
R014	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R084	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
R015	1-216-049-00	RES,CHIP	1K 5% 1/10W	R085	1-216-031-00	RES,CHIP	180 5% 1/10W
R017	1-249-429-11	CARBON	10K 5% 1/4W	R086	1-216-053-00	RES,CHIP	1.5K 5% 1/10W
R019	1-216-053-00	RES,CHIP	1.5K 5% 1/10W	R087	1-216-180-00	RES,CHIP	180 5% 1/8W
				R088	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
				R093	1-216-230-00	RES,CHIP	22K 5% 1/8W



REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
R094	1-216-057-00	RES,CHIP	2.2K 5% 1/10W	R201	1-260-091-11	CARBON	220 5% 1/2W
R095	1-216-025-00	RES,CHIP	100 5% 1/10W	R204	1-247-863-91	CARBON	22K 5% 1/4W
R096	1-247-807-31	CARBON	100 5% 1/4W	R205	1-260-091-11	CARBON	220 5% 1/2W
R097	1-247-807-31	CARBON	100 5% 1/4W	R206	1-216-085-00	RES,CHIP	33K 5% 1/10W
R098	1-247-807-31	CARBON	100 5% 1/4W	R207	1-216-295-00	SHORT	0
R099	1-247-807-31	CARBON	100 5% 1/4W	R209	1-216-065-00	RES,CHIP	4.7K 5% 1/10W
R101	1-216-049-00	RES,CHIP	1K 5% 1/10W	R211	1-215-873-21	METAL OXIDE	4.7K 5% 1W F
R106	1-215-900-11	METAL OXIDE	22K 5% 2W F	R213	1-216-093-00	RES,CHIP	68K 5% 1/10W
R110	1-216-206-00	RES,CHIP	2.2K 5% 1/8W (KV-21C5B/21X5B)	R301	1-216-025-00	RES,CHIP	100 5% 1/10W
R111	1-216-057-00	RES,CHIP	2.2K 5% 1/10W (KV-21C5B/21X5B)	R302	1-216-073-00	RES,CHIP	10K 5% 1/10W
R112	1-216-057-00	RES,CHIP	2.2K 5% 1/10W (KV-21C5B/21X5B)	R303	1-216-073-00	RES,CHIP	10K 5% 1/10W
R116	1-249-437-11	CARBON	47K 5% 1/4W	R304	1-216-073-00	RES,CHIP	10K 5% 1/10W
R120	1-216-037-00	RES,CHIP	330 5% 1/10W	R305	1-412-002-31	INDUCTOR CHIP	4.7UH
R121	1-216-025-00	RES,CHIP	100 5% 1/10W	R306	1-216-206-00	RES,CHIP	2.2K 5% 1/8W
R122	1-216-025-00	RES,CHIP	100 5% 1/10W	R309	1-216-675-11	METAL CHIP	10K 0.50% 1/10W
R127	1-216-031-00	RES,CHIP	180 5% 1/10W (KV-21C5B/21X5B)	R310	1-216-022-00	RES,CHIP	75 5% 1/10W
R128	1-216-065-00	RES,CHIP	4.7K 5% 1/10W (KV-21C5B/21X5B)	R311	1-216-029-00	RES,CHIP	150 5% 1/10W
R129	1-216-063-91	RES,CHIP	3.9K 5% 1/10W (KV-21C5B/21X5B)	R313	1-216-025-00	RES,CHIP	100 5% 1/10W
R133	1-216-295-00	SHORT	0 (KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/ 21X5L/21X5R/21X5U)	R314	1-216-025-00	RES,CHIP	100 5% 1/10W
R142	1-216-295-00	SHORT	0	R315	1-216-075-00	RES,CHIP	12K 5% 1/10W
R143	1-216-025-00	RES,CHIP	100 5% 1/10W (KV-21C5B/21X5B)	R316	1-216-025-00	RES,CHIP	100 5% 1/10W
	1-216-031-91	RES,CHIP	180 5% 1/10W (KV-21C5D/21C5E/21C5K/21C5R) (KV-21X5A/21X5D/21X5E/21X5K/ 21X5L/21X5R/21X5U)	R317	1-216-049-00	RES,CHIP	1K 5% 1/10W
R144	1-216-079-00	RES,CHIP	18K 5% 1/10W	R318	1-216-025-00	RES,CHIP	100 5% 1/10W
R145	1-216-212-00	RES,CHIP	3.9K 5% 1/8W	R319	1-216-025-00	RES,CHIP	100 5% 1/10W
R147	1-216-017-91	RES,CHIP	47 5% 1/10W (KV-21C5B/21X5B)	R320	1-216-025-00	RES,CHIP	100 5% 1/10W
R148	1-216-174-00	RES,CHIP	100 5% 1/8W (KV-21C5B/21X5B)	R321	1-216-025-00	RES,CHIP	100 5% 1/10W
R149	1-216-049-00	RES,CHIP	1K 5% 1/10W (KV-21C5B/21X5B)	R323	1-216-025-00	RES,CHIP	100 5% 1/10W
R151	1-216-049-00	RES,CHIP	1K 5% 1/10W	R324	1-412-002-31	INDUCTOR CHIP	4.7UH
R152	1-216-025-00	RES,CHIP	100 5% 1/10W (KV-21C5B/21X5B)	R325	1-412-002-31	INDUCTOR CHIP	4.7UH
R153	1-216-180-00	RES,CHIP	180 5% 1/8W	R326	1-216-129-00	RES,CHIP	2.2M 5% 1/10W
R154	1-216-238-91	RES,CHIP	47K 5% 1/8W	R331	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
R155	1-216-089-00	RES,CHIP	47K 5% 1/10W	R332	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
				R333	1-216-057-00	RES,CHIP	2.2K 5% 1/10W
				R334	1-216-025-00	RES,CHIP	100 5% 1/10W
				R335	1-216-025-00	RES,CHIP	100 5% 1/10W
				R338	1-216-049-00	RES,CHIP	1K 5% 1/10W
				R401	1-216-113-00	RES,CHIP	470K 5% 1/10W
				R402	1-216-295-71	CONDUCTOR CHIP	
				R403	1-216-041-00	RES,CHIP	470 5% 1/10W
				R404	1-216-113-00	RES,CHIP	470K 5% 1/10W
				R405	1-216-295-00	SHORT	0
				R406	1-216-113-00	RES,CHIP	470K 5% 1/10W
				R408	1-216-022-00	RES,CHIP	75 5% 1/10W
				R409	1-216-025-00	RES,CHIP	100 5% 1/10W
				R410	1-216-025-00	RES,CHIP	100 5% 1/10W
				R411	1-216-022-00	RES,CHIP	75 5% 1/10W
				R412	1-216-025-00	RES,CHIP	100 5% 1/10W

REF. NO.	PART.NO	DESCRIPTION	REMARK			REF. NO.	PART.NO	DESCRIPTION	REMARK		
R413	1-216-295-00	SHORT	0			R507	1-216-349-00	METAL OXIDE	1	5%	1W F
R414	1-216-022-00	RES,CHIP	75	5%	1/10W	R508	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R415	1-216-022-00	RES,CHIP	75	5%	1/10W	R509	1-216-059-00	RES,CHIP	2.7K	5%	1/10W
R417	1-247-804-11	CARBON	75	5%	1/4W	R510	1-216-081-00	RES,CHIP	22K	5%	1/10W
		(KV-21C5B/21C5D/21C5E/21C5K/21C5R)				R512	1-249-382-11	CARBON	1.2	5%	1/4W F
		(KV-21X5A/21X5B/21X5D/21X5E/21X5K/21X5R)									
	1-247-698-11	CARBON	68	5%	1/4W	R514	1-249-377-11	CARBON	0.47	5%	1/4W F
		(KV-21X5L/21X5U)				R515	1-249-377-11	CARBON	0.47	5%	1/4W F
R418	1-249-413-11	CARBON	470	5%	1/4W	R516	1-249-493-11	CARBON	56K	5%	1/2W
		(KV-21C5B/21C5D/21C5E/21C5K/21C5R)				R517	1-249-436-11	CARBON	39K	5%	1/4W
		(KV-21X5A/21X5B/21X5D/21X5E/21X5K/21X5R)				R518	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
	1-249-414-11	CARBON	560	5%	1/4W						
		(KV-21X5L/21X5U)				R519	1-216-121-91	RES,CHIP	1M	5%	1/10W
R419	1-216-022-00	RES,CHIP	75	5%	1/10W	R520	1-215-883-11	METAL OXIDE	33	5%	2W F
R420	1-216-041-00	RES,CHIP	470	5%	1/10W	R522	1-216-097-00	RES,CHIP	100K	5%	1/10W
R421	1-216-113-00	RES,CHIP	470K	5%	1/10W	R523	1-216-117-00	RES,CHIP	680K	5%	1/10W
R422	1-216-295-00	SHORT	0			R524	1-216-085-00	RES,CHIP	33K	5%	1/10W
R425	1-216-077-00	RES,CHIP	15K	5%	1/10W						
R426	1-216-073-00	RES,CHIP	10K	5%	1/10W	R525	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R427	1-216-113-00	RES,CHIP	470K	5%	1/10W	R526	1-216-089-00	RES,CHIP	47K	5%	1/10W
R429	1-216-041-00	RES,CHIP	470	5%	1/10W	R527	1-216-075-00	RES,CHIP	12K	5%	1/10W
R430	1-216-113-00	RES,CHIP	470K	5%	1/10W	R528	1-216-246-00	RES,CHIP	100K	5%	1/8W
R431	1-216-295-00	SHORT	0			R529	1-216-073-00	RES,CHIP	10K	5%	1/10W
R432	1-216-113-00	RES,CHIP	470K	5%	1/10W						
R435	1-216-022-00	RES,CHIP	75	5%	1/10W	R530	1-216-085-00	RES,CHIP	33K	5%	1/10W
R436	1-216-041-00	RES,CHIP	470	5%	1/10W	R531	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R437	1-216-029-00	RES,CHIP	150	5%	1/10W	R532	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R439	1-216-041-00	RES,CHIP	470	5%	1/10W	R533	1-216-081-00	RES,CHIP	22K	5%	1/10W
R440	1-216-113-00	RES,CHIP	470K	5%	1/10W	R539	1-216-049-00	RES,CHIP	1K	5%	1/10W
R441	1-216-295-00	SHORT	0								
R442	1-216-077-00	RES,CHIP	15K	5%	1/10W	R540	1-215-887-00	METAL OXIDE	150	5%	2W F
R443	1-216-073-00	RES,CHIP	10K	5%	1/10W	R541	1-216-105-00	RES,CHIP	220K	5%	1/10W
R445	1-216-178-00	RES,CHIP	150	5%	1/8W	R542	1-216-089-00	RES,CHIP	47K	5%	1/10W
R446	1-216-113-00	RES,CHIP	470K	5%	1/10W	R543	1-216-089-00	RES,CHIP	47K	5%	1/10W
R447	1-216-295-71	CONDUCTOR CHIP				R545	1-216-129-91	RES,CHIP	2.2M	5%	1/10W
R448	1-216-113-00	RES,CHIP	470K	5%	1/10W						
R449	1-216-295-71	CONDUCTOR CHIP				R546	1-249-401-11	CARBON	47	5%	1/4W F
R450	1-216-041-00	RES,CHIP	470	5%	1/10W	R547	1-535-143-71	LEAD, JUMPER (7.5MM)			
R454	1-216-041-00	RES,CHIP	470	5%	1/10W	R548	1-212-849-00	FUSIBLE	4.7	5%	1/4W F
R457	1-216-025-00	RES,CHIP	100	5%	1/10W	R549	1-216-371-00	METAL OXIDE	1.5	5%	2W F
R459	1-247-807-31	CARBON	100	5%	1/4W	R551	1-215-873-00	METAL OXIDE	4.7K	5%	1W F
R460	1-249-403-11	CARBON	68	5%	1/4W						
R501	1-216-081-00	RES,CHIP	22K	5%	1/10W	R552	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R502	1-216-097-00	RES,CHIP	100K	5%	1/10W	R553	1-249-381-11	CARBON	1	5%	1/4W F
R503	1-215-888-00	METAL OXIDE	220	5%	2W F	R554	1-216-109-91	RES,CHIP	330K	5%	1/10W
R504	1-249-385-11	CARBON	2.2	5%	1/4W F	R571	1-249-417-11	CARBON	1K	5%	1/4W F
R505	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W	R572	1-216-369-00	METAL OXIDE	1	5%	2W F
R506	1-216-059-00	RES,CHIP	2.7K	5%	1/10W						
						R573	1-216-101-00	RES,CHIP	150K	5%	1/10W
						R574	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
						R575	1-216-097-00	RES,CHIP	100K	5%	1/10W
						R576	1-249-399-11	CARBON	33	5%	1/4W
						R581	1-216-089-00	RES,CHIP	47K	5%	1/10W
						R582	1-216-089-00	RES,CHIP	47K	5%	1/10W
						R583	1-216-081-00	RES,CHIP	22K	5%	1/10W



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REF. NO.	PART.NO	DESCRIPTION	REMARK
R588	1-216-051-00	RES,CHIP 1.2K 5%	1/10W
R589	1-216-097-00	RES,CHIP 100K 5%	1/10W
R590	1-216-073-00	RES,CHIP 10K 5%	1/10W
R591	1-215-892-11	METAL OXIDE 1K 5%	2W F
R593	1-249-439-11	CARBON 68K 5%	1/4W
R594	1-216-057-00	RES,CHIP 2.2K 5%	1/10W
R595	1-249-377-11	CARBON 0.47 5%	1/4W F
R602	1-202-961-11	CEMENTED 1.8 5%	10W
R603	1-202-933-61	FUSIBLE 0.1 10%	1/2W F
R607 $\Delta$	1-202-961-11	CEMENTED 1.8 5%	10W
R608	1-215-927-00	METAL OXIDE 47K 5%	3W F
R611	1-249-415-11	CARBON 680 5%	1/4W
R613 $\Delta$	1-240-030-91	METAL 4.7M 5%	1/2W
R614 $\Delta$	1-240-030-91	METAL 4.7M 5%	1/2W
R615	1-249-422-11	CARBON 2.7K 5%	1/4W
R616	1-216-393-00	METAL OXIDE 2.2 5%	3W F
R617	1-249-405-11	CARBON 100 5%	1/4W F
R619	1-216-065-00	RES,CHIP 4.7K 5%	1/10W
R622	1-249-401-11	CARBON 47 5%	1/4W
R627	1-249-385-11	CARBON 4.7 5%	1/4W F
R628	1-247-791-91	CARBON 22 5%	1/4W
R652	1-216-393-00	METAL OXIDE 2.2 5%	3W F
R653	1-216-393-00	METAL OXIDE 2.2 5%	3W F
R658	1-215-929-11	METAL OXIDE 100K 5%	3W F
R659	1-216-383-11	METAL OXIDE 0.33 5%	3W F
R660	1-216-384-11	METAL OXIDE 0.39 5%	3W F
R661	1-247-843-11	CARBON 3.3K 5%	1/4W
R662	1-215-929-11	METAL OXIDE 100K 5%	3W F
R664	1-249-417-11	CARBON 1K 5%	1/4W
R665	1-215-877-11	METAL OXIDE 22K 5%	1W F
R667	1-215-927-00	METAL OXIDE 47K 5%	3W F
< VARIABLE RESISTOR >			
RV101	1-241-765-11	RES, ADJ, CARBON 22K	(KV-21C5B/21X5B)
< RELAY >			
RY601 $\Delta$	1-755-245-11	RELAY, AC POWER	
< SWITCH >			
S001	1-571-532-21	SWITCH, TACTIL	
S002	1-571-532-21	SWITCH, TACTIL	
S003	1-571-532-21	SWITCH, TACTIL	
S004	1-571-532-21	SWITCH, TACTIL	
S005	1-571-532-21	SWITCH, TACTIL	
S006	1-571-532-21	SWITCH, TACTIL	
S601 $\Delta$	1-571-433-21	SWITCH, PUSH (AC POWER)	

REF. NO.	PART.NO	DESCRIPTION	REMARK
< TRANSFORMER >			
T511 $\Delta$	1-453-279-11	TRANSFORMER ASSY, FLYBACK NX-1747/U2B	
T531	1-437-195-11	TRANSFORMER, HORIZONTAL DRIVE	
T601 $\Delta$	1-433-411-11	TRANSFORMER, LINE FILTER	
T602	1-431-732-11	TRANSFORMER, CONVERTER (SRT)	
T603 $\Delta$	1-431-777-11	TRANSFORMER, CONVERTER	
< THERMISTOR >			
THP601 $\Delta$	1-808-059-31	THERMISTOR, POSITIVE	
< TUNER >			
TU101	1-693-418-11	TUNER (TELE9-001A)	(KV-21C5B/21X5B)
	8-598-432-00	TUNER BTP-AC411	(KV-21C5D/21C5E/21C5K/21C5R/21X5A/21X5D/21X5E/21X5K/21X5R/21X5L)
	8-598-464-00	TUNER BTP-AU611	(KV-21X5U)
< CRYSTAL >			
X001	1-578-774-11	VIBRATOR, CRYSTAL	
X302	1-567-505-11	OSCILLATOR, CRYSTAL	
X303	1-567-504-11	OSCILLATOR, CRYSTAL	
*****			
	*A-1638-118-A	C BOARD, COMPLETE	
*****			
< CAPACITOR >			
C701	1-102-114-00	CERAMIC 470PF	10% 50V
C702	1-102-109-91	CERAMIC 180PF	10% 50V
C703	1-102-109-91	CERAMIC 180PF	10% 50V
C708	1-162-114-00	CERAMIC 0.0047MF	2KV
C710	1-136-189-00	FILM 10MF	10% 250V
C712	1-102-109-91	CERAMIC 180PF	10% 50V
C714	1-126-967-11	ELECT 47MF	20% 16V
C717	1-102-114-00	CERAMIC 470PF	10% 50V
C718	1-102-114-00	CERAMIC 470PF	10% 50V
C719	1-102-114-00	CERAMIC 470PF	10% 50V
< CONNECTOR >			
CN702	1-695-915-11	TAB (CONTACT)	
CN703	*1-564-509-11	PLUG, CONNECTOR 6P	
CN706	1-695-915-21	TAB (CONTACT)	
CN707	*1-564-508-51	PLUG, CONNECTOR 5P	

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REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
< DIODE >				R707	1-249-411-11	CARBON 330 5%	1/4W
D701	8-719-109-89	DIODE RD5.6ESB2		R708	1-249-408-11	CARBON 180 5%	1/4W
D702	8-719-991-33	DIODE 1SS133T-77		R711	1-249-427-11	CARBON 6.8K 5%	1/4W
D703	8-719-991-33	DIODE 1SS133T-77		R712	1-260-099-11	CARBON 1K 5%	1/2W
D704	8-719-991-33	DIODE 1SS133T-77		R713	1-249-439-11	CARBON 68K 5%	1/4W
D705	8-719-991-33	DIODE 1SS133T-77		R714	1-215-899-11	METAL OXIDE 15K 5%	2W F
D706	8-719-991-33	DIODE 1SS133T-77		R715	1-535-143-11	LEAD, JUMPER (10.0MM)	
D707	8-719-991-33	DIODE 1SS133T-77		R716	1-247-815-91	CARBON 220 5%	1/4W
D708	1-535-143-61	LEAD, JUMPER (5.0MM)		R717	1-249-411-11	CARBON 330 5%	1/4W
D709	8-719-991-33	DIODE 1SS133T-77		R718	1-202-814-11	SOLID 33K 10%	1/2W
D710	8-719-991-33	DIODE 1SS133T-77		R719	1-249-408-11	CARBON 180 5%	1/4W
D711	1-216-349-00	METAL OXIDE 1 5%	1W F	R720	1-249-427-11	CARBON 6.8K 5%	1/4W
D712	8-719-991-33	DIODE 1SS133T-77		R721	1-535-143-61	LEAD, JUMPER (5.0MM)	
D713	1-535-303-00	LEAD, JUMPER (5.0MM)		R722	1-202-848-00	SOLID 680K 10%	1/2W
D714	8-719-991-33	DIODE 1SS133T-77		R723	1-535-143-11	LEAD, JUMPER (10.0MM)	
D715	1-535-143-61	LEAD, JUMPER (5.0MM)		R726	1-260-099-11	CARBON 1K 5%	1/2W
D716	8-719-991-33	DIODE 1SS133T-77		R727	1-247-815-91	CARBON 220 5%	1/4W
D718	8-719-991-33	DIODE 1SS133T-77		R728	1-216-351-00	METAL OXIDE 1.5 5%	1W F
D719	1-535-143-61	LEAD, JUMPER (5.0MM)		R729	1-249-411-11	CARBON 330 5%	1/4W
				R730	1-249-408-11	CARBON 180 5%	1/4W
< CRT SOCKET >				R731	1-249-427-11	CARBON 6.8K 5%	1/4W
J701 $\Delta$	1-251-595-11	SOCKET, CRT		R734	1-247-807-31	CARBON 100 5%	1/4W
< COIL >				R736	1-215-899-11	METAL OXIDE 15K 5%	2W F
L704	1-414-186-31	MICRO INDUCTOR 33UH		R737	1-247-891-00	CARBON 330K 5%	1/4W
< TRANSISTOR >				R739	1-535-143-11	LEAD, JUMPER (10.0MM)	
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE		R741	1-202-549-00	SOLID 100 20%	1/2W
Q703	8-729-046-28	TRANSISTOR BF420-126		R743	1-535-143-61	LEAD, JUMPER (5.0MM)	
Q704	8-729-200-17	TRANSISTOR 2SA1091-0		R746	1-249-417-11	CARBON 1K 5%	1/4W
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE		R750	1-249-417-11	CARBON 1K 5%	1/4W
Q706	8-729-046-28	TRANSISTOR BF420-126		R751	1-249-417-11	CARBON 1K 5%	1/4W
Q707	8-729-200-17	TRANSISTOR 2SA1091-0		< VARIABLE RESISTOR >			
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE		RV702	1-241-656-21	RES, ADJ, METAL FILM 110M	
Q709	8-729-046-28	TRANSISTOR BF420-126		*****			
Q710	8-729-200-17	TRANSISTOR 2SA1091-0		*A-1652-056-A	S1 BOARD, COMPLETE	(KV-21C5B/21X5B)	
Q712	8-729-046-28	TRANSISTOR BF420-126			*****		
Q713	8-729-046-28	TRANSISTOR BF420-126		*A-1652-053-A	S1 BOARD, COMPLETE	(KV-21C5D/21C5R/21X5A/21X5D/21X5R)	
					*****		
				*A-1652-052-A	S1 BOARD, COMPLETE	(KV-21C5E/21C5K/21X5E/21X5K/21X5L/21X5U)	
					*****		
< RESISTOR >				< CAPACITOR >			
R701	1-247-895-91	CARBON 470K 5%	1/4W	C1103	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R702	1-215-899-11	METAL OXIDE 15K 5%	2W F	C1106	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R703	1-535-143-61	LEAD, JUMPER (5.0MM)		C1107	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R705	1-260-099-11	CARBON 1K 5%	1/2W	C1108	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
R706	1-247-815-91	CARBON 220 5%	1/4W	C1109	1-104-664-11	ELECT 47MF	20% 25V

REF.NO.	PART.NO	DESCRIPTION	REMARK	REF.NO.	PART.NO	DESCRIPTION	REMARK
C1112	1-163-001-11	CERAMIC CHIP 220PF	10% 50V	CF1101	1-409-327-00	< FILTER > TRAP, CERAMIC (6.5MHZ)	(KV-21C5B/21X5B)
C1113	1-104-664-11	ELECT 47MF	20% 25V				
C1114	1-163-001-11	CERAMIC CHIP 220PF	10% 50V				
C1115	1-104-664-11	ELECT 47MF	20% 25V				
C1118	1-162-637-11	CERAMIC CHIP 0.47MF	16V				
C1120	1-164-005-11	CERAMIC CHIP 0.47MF	25V	CN1101	1-766-925-11	CONNECTOR, BOARD TO BOARD 18P	
C1122	1-104-664-11	ELECT 47MF	20% 25V				
C1123	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1124	1-163-251-11	CERAMIC CHIP 100PF	5% 50V				
C1127	1-163-239-11	CERAMIC CHIP 33PF	5% 50V (KV-21C5B/21C5E/21C5K) (KV-21X5B/21X5E/21X5K/ 21X5L/21X5U)				
	1-163-235-11	CERAMIC CHIP 22PF	5% 50V (KV-21C5D/21C5R) (KV-21X5A/21X5D/21X5R)	D1101	8-719-066-72	DIODE BB135	(KV-21C5B/21C5E/21C5K) (KV-21X5B/21X5E/21X5K/ 21X5L/21X5U)
C1128	1-163-239-11	CERAMIC CHIP 33PF	5% 50V				
C1129	1-163-989-11	CERAMIC CHIP 0.033MF	10% 25V (KV-21C5B/21C5E/21C5K) (KV-21X5B/21X5E/21X5K/ 21X5L/21X5U)				
C1130	1-110-501-11	CERAMIC CHIP 0.33MF	10% 16V (KV-21C5B/21C5E/21C5K) (KV-21X5B/21X5E/21X5K/ 21X5L/21X5U)				
C1131	1-164-005-11	CERAMIC CHIP 0.47MF	25V (KV-21C5B/21C5D/21C5R) (KV-21X5A/21X5B/21X5D/ 21X5R)				
C1132	1-104-664-11	ELECT 47MF	20% 25V	FB1101	1-410-396-41	FERRITE 0.45UH	
C1133	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1135	1-163-117-00	CERAMIC CHIP 100PF	5% 50V (KV-21C5B/21X5B)				
C1137	1-104-664-11	ELECT 47MF	20% 25V (KV-21C5B/21X5B)				
C1138	1-163-109-00	CERAMIC CHIP 47PF	5% 50V (KV-21C5B/21X5B)				
C1143	1-163-005-11	CERAMIC CHIP 470PF	10% 50V	L1101	1-408-596-31	INDUCTOR 2.7UH	(KV-21C5B/21C5E/21C5K) (KV-21X5B/21X5E/21X5K/ 21X5L/21X5U)
C1144	1-163-005-11	CERAMIC CHIP 470PF	10% 50V				
C1145	1-163-077-00	CERAMIC CHIP 0.1MF	10% 25V				
C1146	1-164-005-11	CERAMIC CHIP 0.47MF	25V				
C1147	1-164-005-11	CERAMIC CHIP 0.47MF	25V				
C1148	1-164-005-11	CERAMIC CHIP 0.47MF	25V	L1113	1-408-600-31	INDUCTOR 5.6UH	(KV-21C5B/21X5B)
C1149	1-126-960-11	ELECT 1MF	20% 50V				
C1150	1-126-960-11	ELECT 1MF	20% 50V				
C1151	1-104-664-11	ELECT 47MF	20% 25V				
C1152	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
				Q1112	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-21C5B/21X5B)
				Q1113	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-21C5B/21X5B)

REF. NO.	PART.NO	DESCRIPTION	REMARK	REF. NO.	PART.NO	DESCRIPTION	REMARK
Q1114	8-729-216-22	TRANSISTOR 2SA1162-G	(KV-21C5B/21X5B)	R1167	1-216-025-00	RES,CHIP 100 5% 1/10W	
Q1115	8-729-620-06	TRANSISTOR 2SC3052-EF	(KV-21C5B/21X5B)			(KV-21C5B/21X5B)	
< RESISTOR >				R1168	1-216-033-00	RES,CHIP 220 5% 1/10W	
						(KV-21C5B/21X5B)	
JR1105	1-216-295-00	SHORT 0		R1169	1-216-049-00	RES,CHIP 1K 5% 1/10W	
JR1112	1-216-295-00	SHORT 0				(KV-21C5B/21X5B)	
JR1113	1-216-295-00	SHORT 0		R1170	1-216-001-00	RES,CHIP 10 5% 1/10W	
						(KV-21C5B/21X5B)	
R1101	1-216-073-00	RES,CHIP 10K 5% 1/10W		R1171	1-216-045-00	RES,CHIP 680 5% 1/10W	
R1102	1-216-073-00	RES,CHIP 10K 5% 1/10W				(KV-21C5B/21X5B)	
R1103	1-216-035-00	RES,CHIP 270 5% 1/10W		R1172	1-216-190-00	RES,CHIP 470 5% 1/8W	
R1105	1-216-035-00	RES,CHIP 270 5% 1/10W				(KV-21C5B/21X5B)	
R1108	1-216-057-00	RES,CHIP 2.2K 5% 1/10W		R1173	1-216-049-00	RES,CHIP 1K 5% 1/10W	
			(KV-21C5B/21X5B)			(KV-21C5B/21X5B)	
R1110	1-216-025-00	RES,CHIP 100 5% 1/10W		R1174	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R1111	1-216-025-00	RES,CHIP 100 5% 1/10W		R1175	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R1113	1-216-073-00	RES,CHIP 10K 5% 1/10W		R1176	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R1116	1-216-689-11	METAL CHIP 39K 0.50% 1/10W		R1177	1-216-085-00	RES,CHIP 33K 5% 1/10W	
			(KV-21C5B/21C5E/21C5K)	R1178	1-216-073-00	RES,CHIP 10K 5% 1/10W	
			(KV-21X5B/21X5E/21X5K/21X5L/21X5U)				
	1-216-295-00	SHORT 0	(KV-21C5D/21C5R)	< CRYSTAL >			
			(KV-21X5A/21X5D/21X5R)	X1101	1-767-813-21	VIBRATOR, CRYSTAL	
R1117	1-216-073-00	RES,CHIP 10K 5% 1/10W		*****			
			(KV-21C5B/21C5E/21C5K)				
			(KV-21X5B/21X5E/21X5K/21X5L/21X5U)				
R1118	1-216-689-11	RES,CHIP 39K 5% 1/10W					
			(KV-21C5B/21C5E/21C5K)				
			(KV-21X5B/21X5E/21X5K/21X5L/21X5U)				
R1121	1-216-065-00	RES,CHIP 4.7K 5% 1/10W					
R1122	1-216-065-00	RES,CHIP 4.7K 5% 1/10W					
R1123	1-216-065-00	RES,CHIP 4.7K 5% 1/10W					
R1124	1-216-073-00	RES,CHIP 10K 5% 1/10W					
R1125	1-216-065-00	RES,CHIP 4.7K 5% 1/10W					
R1126	1-216-073-00	RES,CHIP 10K 5% 1/10W					
R1152	1-216-035-00	RES,CHIP 270 5% 1/10W					
			(KV-21C5B/21X5B)				
R1153	1-216-025-00	RES,CHIP 100 5% 1/10W					
R1154	1-216-067-00	RES,CHIP 5.6K 5% 1/10W					
R1160	1-216-230-00	RES,CHIP 22K 5% 1/8W					
R1161	1-216-190-00	RES,CHIP 470 5% 1/8W					
R1162	1-216-061-00	RES,CHIP 3.3K 5% 1/10W					
R1163	1-216-081-00	RES,CHIP 22K 5% 1/10W					
R1164	1-216-073-00	RES,CHIP 10K 5% 1/10W					
			(KV-21C5B/21X5B)				
R1165	1-216-295-00	SHORT 0	(KV-21C5D/21C5R)				
			(KV-21X5A/21X5D/21X5R)				



The components identified by shading and marked  $\Delta$  are critical for safety  
Replace only with the part number specified.

REF. NO.	PART. NO	DESCRIPTION	REMARK
< MISCELLANEOUS > *****			
$\Delta$	1-411-922-11	COIL, DEGAUSSING	
	1-452-032-00	MAGNET, DISC; 10MM $\emptyset$	
	1-452-094-00	MAGNET, ROTATABLE DISC; 15MM $\emptyset$	
$\Delta$	1-453-279-11	TRANSFORMER ASSY, FLYBACK NX-1747/U2B	
	1-505-924-11	SPEAKER (15X6.5CM)	
$\Delta$	1-571-433-21	SWITCH, PUSH (AC POWER)	
$\Delta$	1-756-286-11	CORD, POWER	
	1-693-418-11	TUNER (TELE9-001A) (KV-21C5B/21X5B)	
	8-598-432-00	TUNER (BTP-AC411) (KV-21C5D/21C5E/21C5K/21C5R 21X5A/21X5D/21X5E/215K/ 21X5R/21X5L)	
	8-598-464-01	TUNER (BTP-AU611) (KV-21X5U)	
$\Delta$	8-738-784-05	PICTURE TUBE (SD-169) (A51JXH61X)	
$\Delta$	8-451-295-45	DEFLECTION YOKE (Y21PFA2BA)	
$\Delta$	8-738-787-71	ITC	
$\Delta$	1-540-006-22	CAP ASSY, HIGH-VOLTAGE	
*****			
ACCESSORIES AND PACKING MATERIALS (KV-21C5) *****			
	*4-395-957-01	BAG PROTECTION	
	*4-204-187-01	INDIVIDUAL CARTON	
	*4-204-181-01	CUSHION (UPPER) (ASSY)	
	*4-204-184-01	CUSHION (LOWER) (ASSY)	
	4-204-358-51	MANUAL, INSTRUCTION (KV-21C5B) (FRENCH/GERMAN/ITALIAN/DUTCH)	
	4-204-358-11	MANUAL, INSTRUCTION (KV-21CD) (GERMAN/ENGLISH/DUTCH/GREEK/TURKISH)	
	4-204-358-71	MANUAL, INSTRUCTION (KV-21C5E) (SPANISH)	
	4-204-358-81	MANUAL, INSTRUCTION (KV-21C5E) (PORTUGUESE/SWEDISH/DANISH/ NORWEGIAN/FINNISH)	
	4-204-358-91	MANUAL, INSTRUCTION (KV-21C5K) (CZECH/ENGLISH/POLISH/HUNGARIAN)	
	4-203-361-91	MANUAL, INSTRUCTION (KV-21C5R) (RUSSIAN/BULGARIAN/ENGLISH)	

REF. NO.	PART. NO	DESCRIPTION	REMARK
ACCESSORIES AND PACKING MATERIALS (KV-21X5) *****			
	4-042-477-01	BAG PROTECTION	
	4-042-179-01	INDIVIDUAL CARTON	
	4-204-173-01	CUSHION (UPPER) (ASSY)	
	4-204-176-01	CUSHION (LOWER) (ASSY)	
	4-204-413-41	MANUAL INSTRUCTION (KV-21X5A) (ITALIAN)	
	4-204-413-51	MANUAL INSTRUCTION (KV-21X5B) (FRENCH/GERMAN/ITALIAN/DUTCH)	
	4-204-413-11	MANUAL INSTRUCTION (KV-21X5D) (GERMAN/ENGLISH/DUTCH/GREEK/TURKISH)	
	4-204-413-71	MANUAL INSTRUCTION (KV21X5E) (SPANISH)	
	4-204-413-91	MANUAL INSTRUCTION (KV-21X5K) (CZECH/ENGLISH/POLISH/HUNGARIAN)	
	4-204-414-61	MANUAL INSTRUCTION (KV-21X5L) (ENGLISH)	
	4-204-414-91	MANUAL INSTRUCTION (KV-21X5R) (RUSSIAN/BULGARIAN/ENGLISH)	
	4-204-413-61	MANUAL INSTRUCTION (KV-21X5U) (ENGLISH)	
*****			
REMOTE COMMANDER *****			
	1-475-765-11	COMMANDER STANDARD TYPE (RM883)	